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CIS/RUSSIAN ARMED FORCES

Crime in Armed Forces

93UM0761A Moscow ARMIYA in Russian No 9, 1993
(Signed to press 30 Apr 93) pp 9-11

[Interview with Colonel of Justice Vladimir Bobrenov, candidate of juridical sciences, senior assistant, Main Military Procuracy, by ARMIYA special correspondent Colonel G. Petrenko, under the "Warning" rubric: "When Will We Put an End to Crime?"; date and place not given]

[Text] [ARMiya] Vladimir Aleksandrovich, the state of legality and rule of law in the country has reached critical proportions and has started to constitute an undisputed threat to the country's security. The foregoing was the discomforting conclusion reached at the recently held All-Russian Conference on the Struggle Against Organized Crime and Corruption. What can you tell us about the crime situation in the Army and the Navy?

[Bobrenov] The military is society in miniature. That is why it suffers the same illnesses. Figures for last year indicate that there was a 2-percent drop in recorded crimes in the Army and Navy, but this is not a cause for celebration.

[ARMiya] Why is that, Vladimir Aleksandrovich? Do you have an explanation for that?

[Bobrenov] First and foremost, in 1992 our servicemen committed thousands of crimes of various degrees of gravity. Keep in mind that those are only the crimes we have on record. Only God knows how many crimes have slipped by unrecorded. Second, the 2-percent drop I mentioned is due largely to the continuing reductions taking place in the army and navy and to chronic personnel shortages. This holds especially true for conscripted service. If we look at other objective indices characterizing the crime situation in the military, the picture becomes even more dismal.

[ARMiya] Can you give us some data in support of your statement?

[Bobrenov] Certainly. Judge for yourself how alarming the crime situation in the army and navy has become. Last year showed an abrupt rise in number of state crimes as compared with 1991. General criminal offenses also shot up - in the amount of 13.8 percent. (Here and below the data pertain to the same time period - Ed.). We have recorded a much larger number of thefts of state property, including those on a grand scale. Stealing of weapons, ammunition, and explosives is continuing. The number of robberies and incidents of plunder are on the rise. Theft committed last year amounted to more than 4,000 units of weapons - a 4.2-percent increase over last year. Bribery also climbed abruptly.

[ARMiya] Yes, the picture is indeed dismal.

[Bobrenov] It will be even more dismal if we consider the growth in premeditated murders among servicemen. Also exceeding the 1991 indices was the number of men killed during the hazing of recruits by older servicemen.

[ARMiya] But some military leaders are loud in their proclamation that hazing has all but ceased everywhere.

[Bobrenov] To wish for something to happen, and for that to become true, are two different things. But what is true is that the detrimental tendency on the part of commanders and chiefs to cover up various crimes committed by their subordinates still continues. There has been a 3.4-percent increase in that. Having suffered disappointment in their superiors' ability to institute strict law and order and respect for the law in their collectives, servicemen are increasingly resorting to holding kangaroo courts and taking the law into their own hands to punish offenders. In 1992, this kind of illegal action led to the deaths of 34 men (19 in the previous year). Five hundred seventy-two men committed suicide. They, in the main, were soldiers and sailors who were unable to withstand the violence and mockery inflicted on them by their fellow servicemen.

The group crime curve also took an upward turn. The incidence of this kind of crime rose by 19.8 percent. There was a 9.8-percent increase in individuals who were intoxicated while committing a crime.

[ARMiya] What in your view are the causes of the unfavorable crime situation in the army and navy?

[Bobrenov] I believe that the causes are mainly connected with the increase in negative trends occurring in society at large. I am speaking about the collapse of our economy; the continuing drop in industrial output; the steady rise in prices; the precipitous decline in living standards, (including among members of the military); deterioration in the psychology of our fellow countrymen; decay in moral principles; and the legal nihilism reigning everywhere. Speaking of military collectives, the crime situation there is in addition affected by the factors I mentioned above, whereby many commanders and chiefs either do nothing, caring little about strengthening discipline and law and order, or worse yet, take the path of crime themselves by covering up negative phenomena. Their subordinates see this, the result being that they, too, lose respect for the regulations, the law, and ethics.

[ARMiya] What can we expect to see this year?

[Bobrenov] To tell the truth, nothing that could raise our hopes. Consider that in January alone there were recorded in army units and fleets: 13 premeditated murders, 40 robbery and plundering incidents, 12 cases of thefts of weapons, ammunition, and explosives, with the result that 493 weapons wound up in the hands of criminals. The first month alone of this year produced 13 cases of stealing of large amounts of military property. In January, 46 men were killed and 28 committed suicide. Once again, instead of taking due measures to counter

violators, many commanders and chiefs chose to cover up the crimes. In the same month of January, more than 100 cases of this sort came to our attention. Unfortunately, this trend is continuing.

[ARMIYA] Covering up is one thing. But there is also the matter of irresponsibility on the part of commanders and chiefs, their disinterest in doing that which is required by the regulations and the law. Is this not a primary cause driving the committing of crimes in the military?

[Bobrenov] Definitely. And I can cite a recent example of that. We recently initiated criminal proceedings against a number of officials of the Pacific Ocean Fleet. The reason? For failure to discharge their direct responsibilities relative to instituting and maintaining strict observance of regulations and for negligence in taking measures related to creating conditions conducive to normal material and personal comfort welfare at a training facility for junior commanders on Russkiy Island. This led to a scandalous lack of sanitation, unsatisfactory placement of personnel, and malnutrition suffered by the future officer assistants. Last year, this resulted in numerous breakouts of acute infectious intestinal diseases, necessitating the hospitalization of up to half of assigned personnel. In a single week of January of this year (the 19th through the 25th), four sailors at the training facility died at the same time, the causes being dystrophy and schizophrenia. In addition, marks consistent with beatings and mockery were discovered on the bodies of the deceased. A special commission dispatched to the island came upon a depressing picture: The area in the vicinity of the food preparation and serving facility was filthy, to put it mildly. Of seven steam rooms, only four were operational; the barracks were cold and dirty, with the inside temperature never rising above 10 to 12 degrees. The personnel went for long periods of time without washing themselves in the bath, did not have their underwear laundered, and, pardon me for saying this, became infested with lice. The bath and laundry facility could not be repaired for some reason. The medical aid station was also closed, not because it could not be repaired, but because it was not heated. The worst thing was the daily food ration: it 21.6 percent below the standard!

I wish to point out that the training facility authorities submitted a number of requests to fleet headquarters, insistently listing demands for assistance in the provision of material and personal comfort items for the personnel. But their shouts for help amounted to no more than a voice crying in the wilderness. The top leadership paid scant attention to occurrences of desertion from the center that was training junior commanders for service in the TOF [Pacific Fleet], and it took no notice of fights among men over the size of portions meted out in the mess hall or over clean underwear. And then, the fatalities. Was it not possible to prevent that? Why was there no timely concern for people, for creating decent conditions so that they could live, learn, and serve?

These questions are far from rhetorical. For the answers to them go a long way toward determining the prestige of the army and navy. There are dozens and hundreds of examples similar to the preceding. Also, I am deeply convinced that reform of the Russian Armed Forces should begin with the individual, by exhibiting fundamental concern for him, by instituting law and order and respect for the law on a universal basis, and by strengthening the moral basis of good traditions of the service.

[ARMIYA] Vladimir Aleksandrovich, some of our readers write us that there is something in addition to inactivity and disinterest in discharging responsibilities on the part of commanders, and that is arrogance associated with their authority. Have such cases come to your attention?

[Bobrenov] Unfortunately there are such cases, and they occur quite frequently. I must say that authority-based arrogance is multifaceted. Let us take just two of its aspects: issuing illegal orders and instructions and unauthorized arrest and confinement of subordinates in stockades. We uncovered over 2,000 orders and instructions of this type in 1992 alone. Five hundred and sixty three men were being held in stockades without a legal basis. If we add to that the numerous cases of outrageous treatment of subordinates by commanders and chiefs and the utter helplessness suffered by the subordinates, one need look no further, so to speak. Today, authority-based arrogance truly knows no bounds. Last year, military procurators of various levels compiled a list of 1,658 occurrences of unjustified material responsibility charges levied against servicemen. Is this not an indication of abject arrogance committed by many commanders and chiefs?

[ARMIYA] Let us look at another side of the crime problem existing in the Army and Navy. What kinds of changes have occurred and are occurring among persons who commit illegal acts?

[Bobrenov] Alas! I must say that even here we see an extremely negative trend. Growing by leaps and bounds among the army's criminal ranks is the officer component, including officers holding considerable posts and ranks. The growth of this component far outpaces that of the other categories of servicemen who enter the criminal ranks. Thus, in the year 1992, there were 235 officers involved in various acts of greed, monetary gain, and other illegal schemes. That is twice the number of the preceding year. For example, we are presently investigating crimes of greed involving Major-General Chibinev, PVO [Air Defense] Army Deputy Commander; Colonel Merenkov, chief of the KEO [Billeting Section] of that large unit; Colonel Babkin, chief of the Lomonosov Aviation School; Colonel Zakharov, the latter's deputy for Rear Services; Regimental Commanders Adamov and Babkin (latter not related to the abovementioned Babkin). And then there is the case of Rozhnov, Submarine Flotilla Command Center officer in the TOF. This "merchant" in uniform organized systematic thefts of food supplies from a military depot.

The thievery committed by him and his cohorts amounted to half a million rubles' worth of foodstuffs. And this at a time when the navy was suffering fatalities due to malnutrition and dystrophy! The data our directorate has in its possession indicate that there were more than one hundred unit commanders and their deputies indicted last year for commission of greed-driven crimes. Bear in mind that these are the people entrusted with training and nurturing of personnel. It is not difficult to imagine to what this kind of "training" and "nurturing" can lead.

[ARMIYA] Vladimir Aleksandrovich, what is the solution to this kind of situation? Is there one, in general?

[Bobrenov] Of course. Even now, we have a dire need for a system of decisive and all-encompassing measures designed to institute and maintain universally, in each unit and aboard all ships, strict observance of the regulations and of law and order. The purpose here is the promotion of decisive intervention in all cases of attempts to deny the rights of service personnel and to denigrate their honor and dignity on the one hand, and to provide protection of their basic interests on the other. Incidentally, in the struggle against crime in the army and navy, it is a mistake to rely solely on the efforts of law enforcement agencies. This struggle is to be waged by all of us working together. At the head of the column in this struggle should be our officer corps, which in the main continues to promote high ethical standards, faithfulness to traditions, devotion to duty, and respect for the law. We are also raising high hopes for effecting improvement in the criminal situation in line units and in fleets in connection with the creation of a military militia. But for this we have neither the funds nor the cadre. This means that the creation of a military militia is something for the far-off future. What we must do today is utilize the manpower and means presently available, relying heavily on the regulations and the law, on the strength of public opinion, keeping in mind that the struggle against crime is a matter for everyone, one requiring the unification of all efforts.

[ARMIYA] Thank you for the interview.

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Spetsnaz Recon Competition

93UM0806A Moscow KRASNAYA ZVEZDA in Russian
26 Aug 93 pp 1-3

[Article by Oleg Vladyskin, KRASNAYA ZVEZDA: "The Guys in the Russian Spetsnaz Are Tough. But Strength Is Not Their Main Virtue: A First-Time Report on Contests Between Special Purpose Reconnaissance Groups of the Russian Federation Armed Forces"]

[Text] Such top-secret contests were held regularly for several years. Only in August 1991 were they canceled in connection with the well-known events in Moscow; in 1992 they were not planned at all because of the military's acute financial problems.

This year, the General Staff of the Russian Federation Armed Forces has found a way to restore the former tradition and organized the sixth contest of reconnaissance groups.

On the eve of the current contest its organizers told me a mind-blowing fact. In 1989, at the finish line of the days-long spetsnaz marathon in the thick forests around Pskov, 13 participants from different teams collapsed from complete exhaustion. Everybody was especially astounded by the Baltic Fleet reconnaissance group. Some of its members, who had gone through tens of kilometers in a nonstop race across the "enemy" rear, could not make it through literally the last 300 meters of track. Semiconscious, people started to collapse. And then the group commander suddenly raised above his head the Navy banner he somehow had with him... He himself and two sailors collapsed unconscious just past the finish line.

Instances of some of the servicemen finishing the enormously difficult route on an IV occurred at tactics and special training contests in other years as well. Therefore, the organizers of the Contest-93 among other things discussed the probability of intensive care for the participants of the new raid.

As for myself, I was overcome with doubts. Is it justified to ask of people outside a real combat situation to give it all to such an extent? Why do spetsnaz members themselves push themselves to the limit beyond which life may be lost? After all, it is still a game, albeit a military one. In the name of what are they so merciless to themselves?

The reconnaissance groups' drop into "enemy" territory was done by air. A two-minute descent by parachute; hiding them in the forest—and forward: a 30-plus-kilometer dash with 30 kg of carry-on on the shoulders of each Spetsnaz member.

I saw how easily, at a good pace, the groups of Senior Lieutenant Sergey Tyulenev from the Volga Military District and Senior Lieutenant Aleksandr Antonov from the Leningrad District took off for the route. I thought to myself that at least with respect to these guys everything was clear from the start. Both teams practically entirely consist of contract servicemen. Talking the night before with the Leningrad Military District members—Privates Andrey Nazarov, Aleksey Mikhaylov, and Eduard Zhuravlev—I learned that the former had two years in Afghanistan on his record; the second—service in the Dniester region; and the latter—in Baku, torn apart by interethnic strife. Their "fixed-term" service fell at a controversial, difficult time. It turned them into people who now on their own look for extreme situations in life. The special designation troops are the right place for this. That is why the guys, already in reserve, responded to the very first call for contract service. Without hesitation, as they confessed.

Well, what about those who are still serving out their draft? They were at the contest, too.

The Airborne Troops Reconnaissance Group, which consisted entirely of them, impressed the judges with the beautiful air drop. The Airborne troops left the helicopter at intervals that seemed to be precision-timed. They performed an impressive freefall jump in order to cut the descent time. It seemed that from the very beginning of the action they overtook the professionals in skill. Alas, beauty in a combat situation does not always equal precise calculation.

That same freefall jump had taken the entire group away from the landing area. Three paratroopers began to descend right away into a dense forest. On top of that, one of them lost a cargo container, which fell on the ground with a loud bang.

"The devil with it," swore Private Sergey Dvoryadkin, hanging caught in the birch trees not far from me. "If you get unlucky, it is from the start—a bad omen..."

The soldier did not know how right he was. While he was "extracting" himself from the tree, the Group Commander, Lieutenant Oleg Pavlinich, together with other soldiers rushed about the forest in search of the loose container, whose contents were needed for further operations. Seconds, minutes went by... The airborne troopers' began to lag behind the other groups. The lag eventually grew into several hours.

In course of the 30-kilometer double-time forced march the judges at some point lost track of the airborne troop team altogether. The team itself did not maintain communications, while the observers stopped reporting on its passing the control points. The group was found only after all other teams had completed the march. Pretty exhausted, the airborne troop team had to be brought back the rest of the way by vehicle.

They did not get points for fulfilling the task at that segment. And the thought involuntarily arose was that soldiers serving out the draft probably were not up to competing with contract servicemen. Except...

Except that the reconnaissance groups of Senior Lieutenant Andrey Chunkov from the Moscow Military District and Senior Lieutenant Sergey Kurbanaliyev from the Far Eastern Military District were the leaders throughout the entire contest. They also consisted of regular draft servicemen. And competed with each other, one must say, desperately. At the march's finish, the Far Easterners, in order to overtake the Muscovites, literally sprinted the last kilometer. Even though it gained them only one minute of the many-hours-long route.

Then there was a river crossing. Having undressed entirely so that none of their clothes would get wet, the spetsnaz soldiers hermetically sealed all their possessions in waterproof bags. First, two reconnaissance people entered the river, swam across it as fast as they could, and took a defensive position on the other shore. Then the group's nucleus followed with the bags. And finally, the last two—the rear guards.

The Northern Fleet reconnaissance group surprised everyone. Their forward patrol and rear guards wore flippers, which permitted the group to considerably speed up their crossing. The other teams immediately protested. The judges, however, dismissed the protests. The sailor carried the flippers with them throughout the entire march, in which each extra gram of weight means liters of extra sweat. The group paid on the ground the price of the seconds gained in water.

The Pacific Fleet group, on the other hand, had a completely different situation. The march on foot exhausted the sailors so much that two combat swimmers... nearly drowned, causing a delay for the entire team.

"For us divers it is more important to 'sink' safely than to stay afloat," the commander, Senior Lieutenant Dmitriy Zorin, commented with sad sarcasm on the group's mishap.

Then they get going again. Across fields under a blazing sun; through forests with clouds of mosquitoes; through bogs and ravines. To find a missile launch pad, and transmit its coordinates over the field radio; to find hiding places set in advance and replenish the group's food supply from them; and then to perform a "prisoner snatch," which will provide the information needed to complete the raid's final task.

Do you know what I found most striking in watching the reconnaissance groups at these stages of the contest? No, one does get used to the inexhaustible "windedness" of the men with feverish eyes, faces blackened by dust, and numb legs. And one can become indifferent to the ability of Anatoliy Sundikov from the Far Eastern team to joke even when he can barely breathe. Because I saw such irrepressible jesters in every team... What I found striking is that after all the hardship they go through, the spetsnaz soldiers' brains continue to function normally.

When the soldiers interrogated the captured "prisoner of war" in English, German, and even Chinese, I unwittingly remembered what their chief, Colonel Vladimir Manchenko told me on the eve of the contest: "The main quality of Spetsnaz is intellect. In principle, one year of service can give any soldier strength, skill, and endurance. Those, however, who can think well even in critical situations we have to identify as early as at draft offices."

...The final event of the contest was impressive. Each group clandestinely reached a major "enemy" communication facility. Sentries were taken out by shots from noiseless weapons. A swift dash to radio-equipped machinery, dense automatic rifle fire, powerful blasts from a grenade launcher at armored targets—and... the facility is destroyed. Now the retreat. About 10 km, running, running, running. To break away from the enemy.

At the finish line of this contest there also were soldiers literally stumbling over. With all due respect to their sacrifice, for understandable reasons there is no need to

mention their names here. For me personally the most important part is these guys' will, which came through graphically in the action, and their simple talk at short rest stops gave an exhaustive answer to the questions that concerned me at the beginning of the contest. The spetsnaz people quite consciously do not spare themselves in the pretend enemy rear. Because had there been a need to actually carry out a combat task, they have to know precisely the limit of the possible. So that they would both carry out the task and come back alive. Otherwise, at a minimum one of the two may not happen.

The contest winners, obviously, have the greatest limits in these abilities. This year the winners were the soldiers of the reconnaissance group led by Senior Lieutenant Andrey Chunkov (Moscow Military District). The second place went to Senior Lieutenant Sergey Kurbanaliyev's group (Far Eastern Military District); the third—Senior Lieutenant Yevgeniy Konopelkin's group (Siberian Military District); the fourth—Senior Lieutenant Maksim Ondolko's group (Urals Military District); the group of "pros" headed by Senior Lieutenant Aleksandr Antonov (Leningrad Military District) came in only fifth. So far, the contract servicemen in spetsnaz units are perceptively behind the drafted soldiers with respect to preparedness. Why? I think that is a topic for a separate conversation.

Right now I would like to draw attention to one more circumstance. As the judges noted, at no phase of the contest were the records of previous years broken. Practically all the time indicators of the latest contest's participants were substantially below those achieved by special designation formations and units of the armed forces of the former USSR. Rich food for serious thought, is it not?

And something else. Time will pass, new contests will come. One probably should start preparing for them now. There is a good reason in a popular proverb: Get your sleigh ready in the summer.

As for KRASNAYA ZVEZDA, we will keep these contests in our sights and cover them in detail.

CIS: MILITARY POLICY

Yeltsin Signs Edict On Military Councils

93UM0822A Moscow KRASNAYA ZVEZDA in Russian
4 Sep 93 p 1

[Article by Boris Borisov: "Military Councils in Russia's Force-Wielding Ministries"]

[Text] Moscow—Russian Federation President Boris Yeltsin signed an edict confirming the Statute on Military Councils on September 1, 1993.

The edict directs the Russian Federation Minister of Defense, the Russian Federation Minister of Security, the Russian Federation Minister of Internal Affairs, the

Chief of the Federal Railroad Troops Directorate under the Russian Federation Ministry of Railroads, and the General Director of the Federal Government Communications and Information Agency under the Russian Federation President to submit proposals on the personnel makeup of military councils within 30 days.

CIS: STRATEGIC DETERRENT FORCES

Conversation With Nuclear, Thermonuclear Weapons Designer S. Voronin

93UM0817A Moscow KRASNAYA ZVEZDA in Russian
3 Sep 93 p 2

[Conversations with Stanislav Nikolayevich Voronin, chief designer of atom and hydrogen bombs and warheads, by KRASNAYA ZVEZDA correspondent Mikhail Rebrov: "Never Say 'Later': Three Meetings With the Chief Designer of Nuclear and Thermonuclear Weapons"]

[Text] Fifteen minutes remained to zero hour. The military test personnel at secret range No. 2 received the message that the recording instruments were ready, and authorization was issued immediately to activate the automatic equipment. Warning commands went out over the loudspeaker, and the countdown began.

The last command went out 40 seconds prior to the explosion. They seemed like an eternity to test director Stanislav Voronin. "Ten seconds," the announcer reminded them. "Eight.... Five.... Three...." Voronin could no longer sit still. He leapt out of the van. At that moment an enormous force shook the earth. When the shock wave had passed under him, he knew: "It worked. It came off OK."

I met Stanislav Nikolayevich Voronin, chief designer of atom and hydrogen bombs and warheads, around 20 years ago. At that time any professional discussion was strictly prohibited, and I therefore asked with some hesitation: "What is a nuclear warhead?"

"It is one of the most complex of technical devices," he replied without a hint of sarcasm. "I would not even know what to compare it to...."

"And how are they made?" I continued.

"Designing a modern weapon is a sort of intellectual game requiring elaborate manipulations of what has actually been achieved and that which is still in the theoretical stage. Only testing can demonstrate how successful a design decision is...."

He has 23 explosions to his credit. So many times he has been in charge of tests culminating years of work, intense and agitating, when days stretch into an endless stream of questions which must be answered with a minimum of time and, most important, unerringly.

He was probably lucky in meeting good people. At the Leningrad Shipbuilding Plant, at Arzamas-16 and at Baykonur: academicians Khariton, Sakharov, Negin...; chief designers Korolev, Yangel, Chelomey.... Was it happenstance? Yes, but the chain of happenstance is a natural pattern. Only for those who look for and anticipate it, however, those who are prepared for it. Who are they? Probably many people. First of all he mentions his father. When the latter left for the front in '41, he took Slavka by the chin, drew him near and counseled him. "I do not know whether I shall return, but you remember one thing: Work is the most important thing for a person. It should not be easy. Work which is too easy and monotonous destroys a person. One should always seek work which demands a lot of him, work which he can give himself over to entirely and not just earn wages. People will then value you and your expertise." A fascist bullet felled his father near Smolensk in '42. When it came time for the funeral, Voronin did not shed a tear. It was difficult enough for his mother without that. Then, on 9 May of '45, he broke down, realizing painfully that he would never see his father again.

He knows how to work, and he was not slighted in the area of ability. He chose a career which appealed to him, entering the school of mines and torpedos. I believe that he could have had a good life also in the navy. A good specialist stands out and is needed everywhere. Once again, however, circumstances intervened. The young engineer was assigned to "closed" KB [Design Office] No. 11. He did not know what people did there, but he was convinced that if he was being assigned there, it would be in his field. This field of specialization of this design office—specifically, the Scientific Research Center for Experimental Physics—turned out to be entirely different, however.

The year was 1954. The first atom and hydrogen bombs had been created and tested, but the development work continued. Voronin spent only 3 weeks at Arzamas-16. He had not yet even thoroughly understood what was going on, when he was summoned to a conference with the scientific director to report on the results of work which he understood only vaguely. Because of his intelligence and allowing for the newcomer's youth, Academician Kharitonov reacted with great sensitivity. He did demand that all of the data be assembled by the following day, however.

Yuriy Borisovich knew how to create infectious impetus in getting to the bottom of any problem. He did not recognize "blank spots." His principle was to resolve a matter at once, not to put it off and not to count on the off-chance. "Never say the word 'later,'" Khariton would say with a frown, when one of his co-workers would attempt to justify an "omission." "If you are unable to see the entire picture, then we are not prepared to work." Voronin went through the entire field of physics in the "Khariton school." His first independent assignment was to conceal an explosion in a sealed enclosure. Voronin thus became a designer.

Sakharov and Zeldovich frequently looked into the design room where he worked at his drawing board. As they discussed the design of an item, they naturally brought up also philosophical issues. Were they doing something good? And what would be the consequences? As Heinrich Heine once said: "If the world develops a crack, it will run through the heart." Sakharov believed that it would run through our hearts.

"I am truly a lucky person," Voronin went on to say. "We were blowing up a device with a force of one and a half megatons. The cable broke during the launching. What could we do? Drag it out of the hole? It turned out not to have been produced according to the design. We fussed for 4 days, as though over an abyss. Sheer torture, but we worked it out.... Another time there was a breakdown involving the ejection of gas through a technical crack. Not one of the more pleasant emergencies.... We came through it...."

Voronin fell to thinking, trying to visualize the time which had passed before his eyes. I found myself once again thinking that it is a lucky person who succeeds in his work. Stanislav Nikolayevich is a lucky man, even though there has been more than enough stress and difficulties in his life. He still has them. But then difficulties are not a hindrance to luck.

In the '50s he began working with warheads for ballistic missiles. He would disappear for weeks or months at a time at Baykonur, Kapustin Yar and Plesetsk. Fate brought him into contact with many chief designers. Was there cooperation? Yes, but there were also fierce conflicts. How was one to argue with Korolev, when he headed the Council of Chief Designers, enjoyed the favor of the leadership and was twice as old, and the leading man from Arzamas was looked upon as a mere boy?

"A warhead is created out of the nerves and the brain with which we think," he would tell Korolev by way of objection. "Besides that, there is an inner logic in our product."

"Oh, so there is no logic in a missile!" the chief designer would say, flaring up and beginning to rage. Marshal Nedelin reconciled them.

Korolev did not harbor his grievances for long and invited Voronin for tea—with lemon and cookies—to "coordinate the details." Voronin was awarded the Lenin prize for the military version of the Korolev "Seven" (the R-7 intercontinental ballistic missile which served as the basis for the launch vehicles for spaceships).

The nuclear warhead for the "Seven" reached a weight of 5 tons. Today's megaton bomb weighs only 300 kilograms. And this is the trotyl equivalent of a million tons of explosive.

"Creating the warhead is only half the job," Voronin told me. "Making the weapon safe is another matter. We succeeded in creating detonators which are not set off by a blow or a fire, which do not activate even when

squashed with a heavy roller. In short, in case of some major accident or operator error, there will be no explosion...."

Lt-Gen Ye.A. Negin, academician, was his predecessor at the post of Chief Designer of Nuclear and Thermonuclear Weapons. When a successor was being discussed, he himself mentioned Voronin. His justification: "The right to create new things, the right to direct a team or even teams is an inner right developed over a lifetime. Stanislav Nikolayevich has developed that right, because the designer's creation is the achievement of a lifetime and not just a brilliant idea which suddenly dawns upon the creator."

"They say that the Chief Designer has a thousand concerns. That is true. All of us know it. What is the main concern? Once again the answer is definite: The main and the most difficult concern is working with people. One must have professionals at his side, people in whom he can have infinite trust. Yuliy Borisovich Khariton would sometimes affix his signature to blueprints ahead of us. We valued that trust and feared losing it. Such traditions should be preserved."

That is the way it was. What about now? If he were asked to draw a caricature of himself, he would depict himself as a tractor or a pusher locomotive. Wages, funds, the search for ways to employ people so as not to lose them.... He sometimes even dreams about this exhausting "shadowboxing." But who is to blame for this? The muddled and troubled times? That is indisputable. But there is also his nature: relentless and indefatigable.

"The teams are losing strength," Voronin says, knitting his brows. "We do not have a normal work pace. There are no large-scale projects. There is no influx of youth. And in general, when one sees no end product of the work, there is no satisfaction...."

We met three times: at Range No. 2 in Semipalatinsk, at Arzamas-16 and in Moscow quite recently. Neither those distant days nor the present has been easy for him. I knew this. At times one sensed something left unsaid, sometimes a yearning, when he talked. I hesitated but finally had to ask him: "Did you have a sense of nostalgia when the cold war ended?" He was silent. Three or four times he took a deep draw of the tobacco smoke, then looked me in the eyes and said:

"There was no nostalgia. Nor is there nostalgia even now. There is, however, a painful sense of something else: a senseless hustle and bustle, and hasty decision-making completely out of touch with reality. It has not become a nonnuclear world. We must understand that. And it will not soon become one. Tens of thousands of warheads cannot be destroyed just like that; it will take years. And the absurd talk about the West halting all development of new nuclear weapons.... That is all nonsense. They are still at work—extremely actively. And this means that there will be an end to parity—a word in vogue today. We shall fall behind, lose a lot of

guarantees. I start to wonder whether everything we have done was in vain. Was it all a life spent for nothing? Perhaps it would have been better to design baby carriages or something else in short supply.... I unconsciously fall prey to these odd thoughts, while at the same time I continue to follow events with the eyes of a defense-industry designer. I have never regarded myself as a politician. I was definitely an engineer who considered politics, because his work has an extremely substantive effect upon politics, but not a politician who took up design work. Competition in the cold-war spirit is disappearing, but the world is no safer. That is too bad, but it is so. And we should not close our eyes to this reality...."

I listened to Voronin's thoughts and thought to myself: That is precisely why we need politicians with broad perspective and perspicacity, with a clear picture of the diverse problems.

"When one has turned seventy, one would think that everything in life would be clear, but I keep looking for a sage who knows the right way to live, how to reach the goal.... This is the question of questions, which, if not asked, could lead to ruin...."

He took another deep breath, slowly exhaled the smoke, knit his light-colored brows and continued:

"There is no universal answer to this question, of course, but there could be some standard, some point of measurement. And the nation's history offers us such a point of measurement. It is the moral example set by that generation of people who took part in the Great Patriotic War. That is what I think...."

He fell silent and took out another cigarette but was in no hurry to light it. His face had a concentrated look, and his eyes were slightly squinted. It was obvious that his thoughts were in that other world of design work, mysterious to us but clear as can be to him. Or perhaps they were on a new, highly advanced, fourth generation of the "product." One which would now become his life. The life and work of the Chief Designer.

CIS: GROUND TROOPS

Specifications of 'Metis' Antitank Missile System

93UM0811 Moscow KRASNAYA ZVEZDA in Russian
27 Aug 93 p 2

[Article by Aleksandr Yegorov of KRASNAYA ZVEZDA under the rubric "Arsenal": "The 'Metis'—Rival of the Dragon"]

[Text] Modern tanks are fast-moving and well-armed combat vehicles with powerful armor protection. The fight against them has provoked the creators of artillery systems to be constantly increasing the caliber of the guns. The standard battalion weapon, and the more so that of the motorized-rifle company, was thus not suited for effective antitank warfare by the beginning of the

1950s. The designers faced the task of finding a fundamentally new type of weapon—limited in mass but with a powerful combat charge. The search led to the creation of antitank guided rocket shells or missiles, or PTURs [ATGMs] as they are called today.

They appeared for the first time in a worked-out and comprehensively tested form in France in the middle of the 1950s. They became quite widespread immediately. Testifying to the enormous scale of the production of antitank missiles is the fact that some 29 countries immediately procured from France more than 300,000 CC-10 and CC-11 missiles. It seemed to all at the time that a panacea to the invulnerable tank had been found.

Why? Because the missiles, small in dimensions, had a whole series of phenomenal merits—high accuracy against maneuvering and immobile targets (probability of a tank hit is 70–90 percent), great armor-piercing capability (400–500 mm or more at a perpendicular angle of impact), increased range of target engagement (up to 3,000–4,000 meters, today up to 5,000) and the possibility of firing when 50–80 meters away from the firing position.

The Soviet Union, not having its own designs at that time, involuntarily and knowingly copied its first models so as not to lag behind its likely adversaries. But moving away from those, it very soon developed its own designs that were distinguished by a whole series of original solutions.

Our antitank missiles are among the best in the world today. This is proven by comparative testing and by combat operations in which they have been used repeatedly.

ATGMs are commonly divided into first-, second- and third-generation missiles depending on the time they were developed. The first generation pertains to antitank missiles with a manual guidance system: the French CC-10, the British Vigilant, the German Kobra and the Soviet Malyutka and its predecessors. The second is missiles with semi-active homing systems—the American TOW and Dragon, the French Acra, the Franco-German Milan and HOT and the Soviet Metis, Fagot and Konkurs. The third generation is antitank missiles with semi-active homing systems with target illumination by laser beam: the American LACH, Anglo-Belgian Atlas and the Soviet, today Russian, Bastion, among others.

The missiles are also categorized according to a number of traits—speed of flight, guidance system, aerodynamic configuration and engine. But perhaps one of the most important characteristics is the weight, as the combat capabilities of the weapon can be judged according to it.

There are light ATGM systems weighing from 5 to 20 kg [kilograms] that can be carried by a single soldier. We call such systems man-portable. The medium ones—up to 40 kg—are portable, and heavy ones are more than 40

kg. The heavy ones are mounted on some sort of platform, as a rule—an armored personnel carrier, IFV or tank.

We intend to talk about most of the modern antitank missiles that are in service. We will begin with the Metis company-level ATGM system, which entered service in 1978.

It is intended, aside from the defeat of stationary and moving armored targets, for combating enemy long-term firing positions, including camouflaged ones. The system includes the 9P115 launcher and the 9M115 and 9M131 antitank guided missiles.

Although the Metis is now “on in years,” it is in no way inferior to its Western analogue—the Dragon ATGM system—and even surpasses it according to some parameters.

Principal Tactical Performance Characteristics of the 9K115 Metis Antitank Missile System

Maximum firing range:	
9M115	1,000 meters
9M131	1,500 meters
Minimum firing range:	
9M115	40 meters
9M131	80 meters
Control system	semi-automatic, wire guided
Rate of fire	4–5 rounds/minute
Weight of launcher	10 kg
Weight of missile in transport/launch canister:	
9M115	6.3 kg
9M131	13.8 kg
Crew	2 persons
Ordnance load	8 missiles

CIS: NAVAL FORCES

Naval Cooperation in Asia-Pacific Region

93UM0759A Moscow MORSKOY SBORNIK
in Russian No 5, May 1993 (Signed to press 6 Apr 93)
pp 7-14

[Article by Captain 1st Rank V. Pankov, Captain 1st Rank D.W. Moreland, III, and Captain 1st Rank Fumio Ota: “Cooperation of the Navies in the Asia-Pacific Region: A View to the Future”]

[Text] The headline of this article contains the title of the document prepared in October-December 1992 by naval officers from the Russian Federation, the United States of America, and Japan, Captain 1st Rank V.D. Pankov—Russian Federation Navy International-Legal Service chief, Captain 1st Rank D.W. Moreland, III—

U.S. Pacific Fleet Central Command Strategic Planning and Support Department Chief, and Captain 1st Rank Fumio Ota—a professor at Japan's National Institute for Defense Studies.

The joint work of the officers was conducted according to the plan of cooperation of the Russian Academy of Sciences Far East Institute and the U.S.'s Stanford University Center for International Security and Arms Control with the active support and direct participation of representatives of the navies of the three countries.

The unofficial document, published below in slightly abridged form, is the authors' attempt to formulate the main problems, the resolution of which affects the expansion of cooperation and insurance of stability in the Asia-Pacific Region (ATR) and also to show possible directions of cooperation on behalf of the region's countries. An agreement exists on the publication of this document in the main naval periodical publications of the three countries.

The editorial staff hopes that our readers will express their concerned opinions on the issues touched upon.

INTRODUCTION

In October 1991, Professor John Lewis, founder of Stanford University's Center for International Security and Arms Control (United States), advanced an initiative to develop a project on cooperation in the Asia-Pacific Region. The initial goal of the project provided for the organization of unofficial discussions during the course of which scholars and military personnel could examine ways to develop cooperation in Northeast Asia. In March 1992, the first meeting, whose participants, having studied a series of initiatives, recognized the need to continue the dialog that had begun, took place at Stanford University with the assistance of Russian Academy of Sciences Far East Institute Director M.L. Titarenko. They developed the concept that is currently known as "Project: For Peace and Cooperation in the Asia-Pacific Region", within the framework of which a second meeting was organized in Moscow in September 1992 and individual discussions were also conducted with representatives of the Naval War College and the U.S.'s Brown University.

As a result, it was proposed that the joint work of Russian and U.S. naval forces be conducted to prepare an academic survey of cooperation measures in the Asia-Pacific Region. Naval experts of the two countries began to develop the initial directions of research. In June 1992, Japan's representative was included in this work. So, on 1 October 1992, the previously proposed idea was implemented.

Representatives of the three countries' navies tasked themselves with the following tasks based upon a consensus:

to develop two sets of proposals for the cooperation of the navies in the Pacific Ocean Region;

to prepare a draft of a joint document for its submission for review of the leadership of the appropriate countries for subsequent realization, if that would be considered acceptable;

to prepare recommendations for further research; and,

to deepen knowledge and mutual relations through personal contacts.

While proceeding from this and while developing new approaches, the authors recognized both the different state of bilateral relations in the Russia-United States-Japan "triangle" and also the need to develop proposals to improve relations between Russia and Japan. While oriented on the official positions of their own countries, the authors set forth national interests, problems and security measures for each of the three countries and then compared the similarity and differences in the positions of Russia, the United States, and Japan.

NATIONAL INTERESTS, SECURITY PROBLEMS, SECURITY MEASURES

Russia's National Interests

The problem of Russia's survival as an integral and independent state has two aspects: internal and external (international). The internal situation in Russia is characterized by the difficulties of the transition to a new political and economic order and also by centrifugal tendencies in the positions of certain Russian republics and ethnic formations. Under these conditions, preservation of integrity and unity—is an important task of the Russian leadership and of the peoples who live on the territory of the state. The international aspect includes the need for the country's survival in a nuclear world.

Russia is interested in further development and progress toward a market economy. In this regard, it is important for it to obtain economic support and to expand trade ties with the world's leading countries. That support must be rendered without any major restrictions or linkages whatsoever with other issues but, of course, while considering the capabilities of all interested parties. Upon achievement of initial stabilization of the Russian economy, a long-term economic development plan must be developed that takes into account the availability of the country's significant manpower and natural resources which in turn would permit us, besides everything else, to conduct the conversion of defense industry enterprises and to increase the output of commercial products.

Russia's economic development can be realized only while preserving its independence and sovereignty. Russia's national interests consist of the following:

its survival as an integral and independent state; economic prosperity; development of communications and friendly relations with other countries; development of normal trade relations with the world's countries; and, a stable and secure world.

Security Problems

The Russian Federation is the legal successor of the former Soviet Union. It has occupied the permanent member seat on the UN Security Council. Significant changes in Russia are being accompanied by changes in its mutual relations with the United States. Both countries do not regard each other as enemies and in this sense the threat of nuclear war has been significantly reduced, if not eliminated in general. Instability and conflicts in certain republics of the former USSR, in the Asia-Pacific Region and in other areas of the world are a subject of Russia's concern in the security sphere. Russia, like Japan, is concerned that the territorial issue remains unresolved and this factor's negative impact on Russo-Japanese relations. As Russia's national interests increase in the Asia-Pacific Region, the presence of political barriers between the two countries are increasingly impeding its broad integration in the region.

For Russia, problems in the security sphere consist of the following:

regional (ethnic) conflicts; territorial disputes; restrictions on normal trade; illegal activity (narcotics trafficking, terrorism, and piracy); the proliferation of arms; Cold War era types of major exercises; and, dangerous activity associated with the search for ballistic missile nuclear submarines (PLARB).

Security Measures

To ensure Russia's national security, we must resolve the dual task that is directed at the creation of favorable internal and external conditions that permit the elimination of the threat to its interests. This is achieved through the realization of a series of political, diplomatic, economic, and military measures that are not only directed at the resolution of existing problems but are also capable of deterring a potential threat in the future. Russia's security measures include:

unilateral measures: the presence of nuclear forces and nuclear deterrence and the presence of the minimally required conventional armed forces; bilateral and multilateral measures—reaction to crises; participation in "ad hoc" peacekeeping operations and (or) under the aegis of the UN; development of a system of agreements on preventing incidents and dangerous military activity; stopping illegal types of activity (narcotics trafficking, terrorism, and piracy); development of confidence-building measures, including the exchange of information with other countries on exercises and large-scale troop redeployments; and, the cessation of dangerous activity that is associated with the search for nuclear ballistic missile submarines.

The National Interests of the United States

Under conditions of the significant changes in the world that are characteristic for the beginning of the 1990's, the

national interests of the United States will remain essentially unchanged. These security interests are many and are derived from widely shared American values and include:

the survival of the United States as a free and independent country with the preservation of its fundamental values and institutions and ensuring the security of the people; healthy economic growth that guarantees conditions for individual prosperity and a resource base for national initiative within the country and abroad; a stable and secure world where political and economic freedom, human rights and democratic institutions would flourish; and, healthy, active political relations based on cooperation with allies and friendly countries.

Security Problems

While implementing bilateral agreements with a number of the world's countries, the United States has rendered and continues to render assistance in deterring potential regional aggressors. Actually over the course of many years the United States was concerned about potential instability with regard to Asia-Pacific Region states that were hostile toward each other. The United States considered an American military presence to be a key factor in ensuring stability in this region.

The U.S.'s economic interests in the Asia-Pacific Region continue to expand. Countries of this part of the world account for over one third of U.S. trade which promotes the economic development of many of them and works to the advantage of their internal and regional stability. As the standard of living rises and the role of economic factors increases, the governments and peoples of the region's countries increasingly strive toward the resolution of internal and international contradictions. Reduction of the level of disagreements can in turn reduce the probability of violent or extreme actions directed at undermining the existing order. Therefore, rendering assistance in maintaining mutually beneficial economic relations and maintenance of stability that is needed for their further progress will as before correspond to U.S. interests.

U.S. interests are attained based on regional stability. Global military confrontation is improbable at the present time and consequently it hardly threatens regional stability. From the point of view of the United States, threats to this stability consist of the following:

aggressive actions on the regional level; territorial disputes; economic or political instability; regional and ethnic conflicts; international terrorism; human rights violations; neglect of the state of the environment; illegal narcotics smuggling; and, the proliferation of arms.

Security Measures

While ensuring its national interests and resolving security problems, the United States is guided by six basic principles:

preserving the U.S.'s diplomatic, economic and military role in the region; maintaining close bilateral and multilateral ties in the interest of security; preserving the presence of the limited but effective U.S. forward deployed forces; preserving in the region, outside the borders of the United States, adequate forward deployed forces support structures and their buildup if necessary where and when that would arise; transferring a greater share of the obligations for ensuring security to the allies; and, following a carefully thought out policy of cooperation in the sphere of defense to increase the level of effectiveness and cooperation.

Japan's National Interests

Japan views survival and prosperity as the most important tasks, the resolution of which is largely associated with two key factors: the ratios between the sizes of the population and territory and the scarcity of natural resources. Japan's dependence on the delivery of natural resources and trade cargoes across the ocean serves as an orientation point for formation of the Japanese government's policy in the economic, military, and political spheres. Japan's position consists of the fact that good relations with all countries and foreign political stability are decisive factors in the world system of free trade. National interests are reduced to the following:

survival; prosperity; prevention of isolation; and, a stable and secure world.

Security Problems

Instability is also a primary security problem for Japan. Elements of instability pertain more to the military sphere than to the number of trends that are capable of generating regional conflicts. Taking this into account, the following are security problems for Japan:

regional conflicts; the proliferation of arms; preserving large military might in the Russian Far East and the absence of adequately open information about these forces; the uncertainty of the situation on the Korean Peninsula (in Japan's opinion, the DPRK [Democratic People's Republic of Korea] is not lessening its efforts that are directed at the development of the latest weapons systems, specifically, ballistic missiles of a greater range and, possibly, the production of nuclear weapons); expansion of the PRC Navy and the reinforcement of the Chinese naval presence in the areas of territorial disputes; the weakening of security relations between the United States and Japan; and, security of the sea lines of communications, especially in areas of territorial disputes and political instability.

Security Measures

Having been initially approved in 1957, the foundations of Japan's policy in the national defense sphere have not endured any changes whatsoever to this day. The policy's goal consists of preventing direct and indirect aggression and, in the event of actual aggression—repelling this

action with the goal of preserving independence and peace for Japan. The principles for ensuring security are enumerated below:

supporting UN activities and promoting international cooperation; increasing the public welfare and promoting the increase of patriotism of the population that facilitates the development of a durable foundation that is needed to ensure Japan's security; steady development of effective defense systems that are needed for self-defense; and, preventing external aggression based on American-Japanese agreements in the security sphere.

Commonality and Divergences of Positions

The authors proceed from the fact that the basic approaches of Russia, the United States, and Japan to the determination of their national interests and security problems generally do not enter into contradiction with each other. The most noticeable differences are manifested in the geographic orientation of problems of a military nature and approaches to the resolution of the problem of the "Northern Territories". Recognizing the entire importance of these differences, we nevertheless think that they should not serve as an obstacle to research and we hope that certain forms of cooperation of naval forces will serve to overcome existing difficulties and will also promote the improvement of relations between our countries in other directions.

The Concurrence of Interests and Goals

The fundamental provisions of the national interests of Russia, the United States and Japan are nearly totally identical both in the context of conceptual approaches and in the context of terminology. We can consider the following provisions to be among them:

the survival of these countries as free and independent states; economic prosperity; positive international relations; and, a stable and secure world.

The security problems also largely coincide. Instability in any form that threatens fundamental national interests is a source of concern on this issue. With the reduction of the probability of a global conflict and the retreat from a bipolar world, a new situation is developing in the Asia-Pacific Region. At the same time, the possibility of the emergence of local conflicts is increasing. We can name uncontrolled economic competition, historically inherited hostility that is being fed by ethnic, religious and territorial disputes, excessive access to arms, and human rights violations among the numerous and diverse sources of these conflicts. Other problems also cause serious concern (they are less likely to serve as the source of conflicts in the ordinary understanding of that word): international terrorism, illegal narcotics trafficking and piracy. It is difficult to predict conflicts that arise due to this activity because they can either come to a head gradually or spring up instantaneously. Therefore the task of developing methods to

prevent and resolve these problems and the conflicts associated with them is at the center of attention of the Asia-Pacific Region states.

Recognition of the importance of American-Japanese relations in the security sphere are another point of concurrence. The breaking off of these relations under current conditions would cause undesirable consequences for the region.

Divergences in Positions

Two spheres of disagreement that are caused by the nonconcurrence of assessments of the sources of instability and approaches to the resolution of existing problems were discovered during the course of the research. A brief survey of them serves as the point of departure for our proposals and recommendations.

Divergence 1: Military Factors of Instability.

At a time when Russia, the United States and Japan are equally concerned about instability in the Asia-Pacific Region and its possible consequences for its national security, Japan's concern—in contrast to the two other countries—is more closely associated with its geographic position. Of all three countries, only Japan defines instability as the presence of potential military threats. The military capabilities of Japan's closest neighbors—Russia, the PRC and the DPRK—pose a more serious and vital problem for Japan than regional conflicts in certain more remote areas of the Asia-Pacific Region. Russia and the United States do not view any specific country within the Asia-Pacific Region or in the world as a military threat and are rather inclined to equate their security problems with potential instability, that is, with a series of trends that are capable of generating regional conflicts.

Divergence 2: Approaches to the Resolution of the Territorial Issue.

The Problem of the so-called "Northern Territories" is the single major obstacle on the path of normalization of Russo-Japanese relations. Until both sides reject the currently occupied positions and shift to a constructive discussion of this issue, the emotional and political factors associated with the territorial problem will impede progress in other directions of Russo-Japanese relations.

Japan's Position. In its approach to the "Northern Territories" dispute, Japan proceeds from the fact that these islands were always viewed as its property. The return of the two small islands of Habomai and Shikotan had already been stipulated in the 1956 Joint Declaration of the Soviet Union and Japan. As for the two other islands—Kunashir and Iturup—Japan proposes to resolve the issue under the condition that Russia recognize its sovereignty over these islands and the schedule and procedures of their actual transfer will be agreed upon based on an understanding.

Japan hopes that the resolution of the territorial issue, the conclusion of a peace agreement and a significant improvement of relations between the two countries will create a solid juridical foundation for mutual trust between their peoples. The establishment of good-neighbor and amicable relations and also the development of cooperation that excludes hostility between Japan and Russia would not only promote the interests of these countries but would also promote the creation of a durable peace and stability in the Asia-Pacific Region and in the entire world.

The Russian Government has recognized the existence of the territorial problem between Japan and Russia and has unambiguously stated that they need to find a very rapid solution of this problem based upon legality and justice. The Japanese side, while welcoming this policy of the new Russia, hopes that the problem can be resolved in the very near future during the course of discussions.

Russia's Position. Normal relations with Japan are exceptionally important for Russia. The economic capabilities of the former and the availability of significant natural and manpower resources in the latter open for both sides good prospects for cooperation, the realization of which is possible only after the normalization of relations.

The territorial problem must be viewed not only as a problem of bilateral relations between Russia and Japan but also in the context of Russia's internal problems and the possible reaction of the international community. The unfavorable economic, political, and social situation within Russia and the situation of Russian citizens who are residing in other countries that were previously part of the Soviet Union, all of this requires greater attention than the resolution of the territorial issue. Japan's linkage of the territorial issue with rendering economic support to Russia creates the preconditions for discussions of postwar borders in other regions, especially in Europe. This could become a precedent in the future and could negatively impact Russia's relations with other countries that would also want to transform the problem of Russia's economic development into an instrument of their own political maneuvers. Furthermore, the ethnic groups on Russia's territory that are seeking secession from Moscow could utilize the return of territories without considering other factors as grounds to obtain international support to attain their goals.

Stabilization of the economic, political, and social situation in Russia is a priority task of the Russian Government. At the same time, Russia henceforth intends to make progress toward improving relations with all countries, including in resolving all problems with Japan based on justice and the law.

Initial Packages

Analysis of the similarities and divergences in the positions of Russia, the United States, and Japan on national security issues provides the opportunity to formulate a

number of initial packages that are needed for the realization of the tasks of this research.

1. Russia and the United States—these are regional and global maritime powers: they rely on their historically inherited maritime traditions and also the capabilities of their navies, the existing sizes of which largely reflect the result of the competition of the two countries during the Cold War period. Both states are currently involved with the reduction of their naval might, however, they intend to preserve it at a level that is adequate to defend their own national interests.

2. With the retreat from the bipolar world, the probability of support of "client" states of some superpower or other has been reduced which at the same time promotes both the reduction of the number of conflicts and also the reduction of the probability of their increase to the scale of a direct military clash between the primary regional powers.

3. Normalization of relations between countries of the Asia-Pacific Region is primarily like a process that is progressive movement from one state of affairs to another. For example, for Japan normalization of relations with Russia is defined as the resolution of the problem of the "Northern Territories" and the conclusion of a peace treaty. In this study, normalization of relations between Russia and Japan is equated with the resolution of the territorial issue only to the extent that the latter is a defined stage on the path to the improvement of relations between the two countries.

4. The state of political relations between Japan and Russia to this day impedes the establishment of regular military contacts.

5. In the event of operations for rendering assistance during natural disasters, all three countries could if necessary allocate men and equipment needed to carry out the appropriate tasks.

6. Economic disagreements—more than any other factors whatsoever—are a potential cause of a deterioration of relations and the absence of mutual understanding. Political logomachies with regard to the activities of the United States and Japan in the economic sphere cause unhealthy moods in both countries and can negatively impact the military sphere of cooperation if existing problems are not resolved.

7. Even with the presence of disagreements between Russia, the United States, and Japan, the obstacles, which were discussed above, are hardly insurmountable. An open discussion of the cited key problems will provide the opportunity to approach the resolution of disputed issues. In those cases when the issues cannot be resolved in the near future, we must resort to alternative forms of contacts and productive cooperation.

Proposals

At the present time, the state of political relations between Russia and Japan serves as an obstacle for any

large-scale trilateral cooperation whatsoever. Until these relations are normalized, all attempts toward all-encompassing measures of cooperation would be practically fruitless and could cause damage to U.S. relations with each of the two countries. To avoid that, it is necessary for Russia and Japan to take a course toward a program of improving relations and overcoming mutual distrust and suspicion. The experience and the program of military contacts between Russia and the United States could serve as an example for the development of similar relations between Russia and Japan.

The allocation by Japan and Russia of ships for participation in operations in the Persian Gulf represents a "sea" change in that type of operations. The presence of Japanese minesweepers in the Persian Gulf during the greater part of 1991 and the presence of Russian ships there since October 1992 are an exceptionally important event.

The proposals set forth below do not stipulate any specific sequence whatsoever in their realization and are not based on the current nature of relations. At the same time, the proposed measures are logically more substantiated and the countries participating in this project should utilize any possibility that is presented to them to accelerate the realization of measures in any individual sphere whatsoever or in accordance with a separate program.

Proposal 1. Russo-Japanese relations.

Until the normalization of relations between Russia and Japan, the accessible variants of military contacts between them are very limited. However, even with the presence of significant divergences, Russia and Japan have opportunities to develop constructive relations under the auspices of the military. The policy, which the USSR and the United States followed at one time with the goal of preventing potential crises, is one of the proven methods for the development of positive relations and cooperation. This practice has a quite valuable "by-product" effect: the sides began to carry out a program to improve relations along other directions. For example, utilizing the opportunities set forth in the 1972 Agreement Between the USSR and the United States on the Prevention of Incidents on the High Seas and in the Airspace Over Them, the sides transitioned to a series of additional steps for the development of other contacts that ultimately served to improve relations and to overcome a lack of understanding.

The following methodology of the development of a mutual understanding and the improvement of relations between Russia and Japan can be proposed based on the Russian-American model.

Initial steps on the path toward the improvement of relations:

a) signing a draft Agreement Between the Governments of Russia and Japan on the Prevention of Incidents at

Sea Outside Territorial Waters that has been prepared for that act;

b) development of measures of openness through the exchange of information on the following issues:

defense policy; military doctrine and strategy; security problems; military organization; the structure of the armed forces; military expenditures; deployment of the armed forces; and, major movements of combat ships (including U.S. ships based on Japan's territory);

c) a change of the content and direction of military exercises to avoid offensive movements or actions with regard to each other; forewarning about exercises and the exchange of exercise plans;

d) establishment of a communications channel between Russia's Pacific Ocean Fleet command authorities and Japan's Self-Defense Forces Naval central command authorities; and,

e) a program of exchanges, including the exchange of visits of ships, cadets, students and scholars of military schools and academies.

Further steps:

a) exchanges of a daily nature and business calls of ships;

b) cooperation for humanitarian purposes: assistance in a period of natural disasters, rescue operations at sea, and so forth; operations against illegal acts, such as narcotics trafficking, terrorism, piracy, and so forth; joint exercises; bilateral and multilateral cooperation in ensuring security; and, the exchange of visits of high-ranking military representatives; and,

c) the development and signing of the Agreement Between Russia and Japan on the Prevention of Dangerous Military Activity.

Proposal 2. Russian-American relations.

It would be advisable for Russia and the United States to continue and expand the existing programs of contacts under the auspices of the military, and, in the process, to shift to systematic, less formal interaction at a lower level.

Although the proposed new directions of cooperation largely envision cooperation between Russia and the United States, other countries could also become actively involved in them. For example, we can regard the cooperation of navies in extreme situations, especially when rendering humanitarian assistance or eliminating the aftereffects of natural disasters, as one of the forms of multinational naval cooperation. Furthermore, during operations of the Russian and U.S. navies near third countries, it would be advisable to involve the forces of these states in these operations which would help to avoid an incorrect interpretation of the true

purposes of such actions. Joint operations of navies in certain individual cases could also permit participation in them of the navies of those countries that for certain political reasons cannot provide official concurrence for participation in regular joint operations with the navies of other states.

Although these multinational measures can hardly be realized in the near future, the creation of conditions for their implementation opens broad horizons for cooperation in the future.

New directions and elements of Russian-American cooperation could include:

1. Expansion of cooperation programs (the development or the continuation of existing programs):

exchange of visits; professional seminars and conferences; exchange of information between staffs; exchange programs for the training of individual specialists (sub-units); inclusion in these programs of visits to training bases (Treasure Island, San Diego, Vladivostok, etc.); visits of high-ranking military delegations; staff-level negotiations; meetings; and, bilateral negotiations.

2. The creation of joint exercise and operations training teams, the mission of which will be the development of procedures for operational cooperation while conducting bilateral or multilateral operations. This group could be created at Hawaii or at Vladivostok in order to have the opportunity to conduct small (with the participation of 2-3 ships) joint measures to verify the proposed procedures for cooperation.

3. The continuation of cooperation between the Russian Navy and the U.S. Navy in peacekeeping operations.

4. Organization of a joint operation in Alaska for the elimination of the aftereffects of natural disasters. An invitation for the participation in it of Canadian and Japanese forces.

5. Organization of joint Pacific Ocean cruises that would be a cruise along the "Pacific Ocean Ring" of a small number of Russian and U.S. military ships with humanitarian goals and for conducting small-scale exercises with the navies of certain Pacific countries. Other countries could participate in individual episodes of this cruise.

CONCLUSIONS AND RECOMMENDATIONS

Political changes of a global scale have resulted in a rethinking of many concepts and agreements of the Cold War period in the security sphere and at the same time have reinforced the potential for the outbreak of regional conflicts and regional instability. Therefore, the development of a series of joint actions will help to establish new relations in the security sphere and to stabilize the situation in the region. Realization of these goals will require fundamentally new positions and approaches on these issues. While developing confidence-building measures and cooperation, we need to progress from

attempts to monitor the activities of the navies of other countries to a continuous dialog and joint operations directed at the creation of a common basis for peaceful international relations.

The creation of a certain initial level of mutual trust must precede any plans for cooperation.

The shift to a frank exchange of opinions that is characteristic for military seamen, and this is confirmed by our experience, permits the avoidance of mutual distrust and a lack of understanding.

One of our first conclusions consisted of the fact that each country can and will preserve, while considering its economic capabilities, the armed forces at the level of minimal sufficiency for protection of its own national interests. In the process, they will utilize their own methods to determine that level, being guided by the circumstances and nature of their mutual relations with other countries. Japan will maintain relatively small Self-Defense Forces while following the constitutional restrictions and special relations with the United States in the security sphere. Russia and the United States, having major armed forces at their disposal, are conducting their reduction while oriented on their own economic capabilities and the change of the political situation in the world.

The size of the United States Navy and the Russian Navy as before is a source of concern and potential distrust by other states. At a time when each of the three countries thinks that it needs definite types of naval forces (for the United States—these are aircraft carriers and amphibious forces; for Russia—these are submarines and aircraft carrying ships; and, for Japan, these are Aegis destroyers and antisubmarine warfare forces) to ensure national security, it is these forces during the course of the entire period of the Cold War that were viewed by other countries as a threat to their security.

At the same time distrust, and not nearly the nature of the armed forces and the true intentions of any state, is the primary obstacle on the path to achieving security.

The proposals that we have developed are a series of measures directed at the development and reinforcement of the positive aspects of relations between our three countries.

While not laying claim to all-inclusiveness or a revolutionary nature, these proposals nevertheless are characterized by a series of positive and promising factors. First of all, these proposals in no way restrict the sovereignty of Russia, the United States or Japan; second, they are simple for adoption of a decision on them and execution; third, they are not fraught with any political costs whatsoever; and, fourth, they will help to clarify the intentions of the parties.

We also understand that at a time when the development of political and economic measures goes beyond the framework of our task, it is these measures that will have

a decisive impact on the realization of the proposals on cooperation in this and any other sphere.

The considerations set forth above were placed at the foundation of the following recommendations which it seems to us could really assist in the development of naval cooperation and in the determination of the directions of further studies in this sphere.

Recommendation 1: Increase the emphasis on the importance of an open exchange of information with all Pacific countries.

It is important that, until the transition to some new program for the development of relations, all other countries of the Asia-Pacific Region recognize that the proposed actions are constructive in nature and are not a threat and are not directed against any of them. A proper understanding by all participants of the goals and tasks of their future interrelations has no less significance than each specific measure. The importance of that understanding is difficult to overestimate. The fact is that the recommendations of third countries on such issues as the regime in Southeast Asia or joint naval operations are quite often rejected precisely due to the suspicion with regard to the "true" motives of such recommendations or latent distrust toward them. That attitude toward any bilateral or trilateral plans of naval cooperation in the Asia-Pacific Region will exist until each measure is accompanied by timely and logical explanations with regard to the goals of its realization and until the initiators of these measures invite and actively encourage other countries of the region to participate.

Recommendation 2: Continue the programs and exchanges supported by unofficial, nongovernmental organizations.

In the period of work on the main ideas of our joint document, the authors frequently experienced difficulties and a lack of understanding in connection with individual specific concepts and conceptions. We arrived at the conclusion that the main problem consists of not the absence of agreement on fundamental issues but difficulties of an adequate translation of the concepts and conceptions being presented into the three languages only during the course of extensive discussions and comparisons of positions. Thanks to the working relations that developed during the course of the joint studies, we mainly succeeded in overcoming the majority of problems of that nature. Being in an unofficial situation that permits one to say "I do not understand" or "You are mistaken"—promoted the preparation of this document in the best manner.

The opportunities offered by the Center for International Security and Arms Control under Stanford University and the Russian Academy of Sciences Far East Institute for the organization of meetings between the representatives of the navies of Russia, the United States, and Japan permitted us to begin those contacts and to better understand the key issues of this study. The proposals presented in this document are only the first

step; in the future, their further development is required in accordance with the relations that are changing and gaining momentum. The expansion of this program provides for the involvement in it of representatives of the navies of other countries which, it seems to us, will serve as a source for new ideas and will provide an outstanding opportunity to verify the effectiveness of the recommendations set forth here.

Recommendation 3: Topics of future studies.

1. Peacetime Operations.

As an example, we can cite the following types of naval operations which could be carried out within the framework of regional cooperation and could promote the attainment of larger scale positive goals in the Asia-Pacific Region:

a) exercises to rehearse humanitarian operations;

b) coordination of operations and the activity associated with search and rescue at sea which provide the opportunity for a continuous demonstration of good will;

c) operations to render assistance and to eliminate damage in the event of natural disasters, where the first phase—rendering assistance—entails immediate operations, and the second—the elimination of the aftereffects—is oriented on longer-term efforts. In the process, the presence of the opportunity for third countries to participate in this assistance is always perceived positively and not only by the country that is the victim of the disaster;

d) civil actions:

medical assistance to the local population of certain countries and not only as part of assistance and restoration after natural disasters but that provide for the resolution of long-term medical problems;

engineering assistance to the local population, from design work and improvement of quality in the sphere of water supply and sanitary-technical systems to the demonstration of new engineering and technical systems and techniques for their utilization. From several people to engineer subunits can participate in these projects with the goal of realizing a major engineering-construction project. Civil actions of this type can also be carried out within the framework of rendering assistance during natural disasters, during visits of ships or during the conduct of exercises;

e) visits of ships to foreign ports—is an important part of a naval presence; they strengthen diplomatic relations and promote the expansion of influence and demonstrate good will. In combination with humanitarian operations and operations to render civil assistance, visits of ships can serve to develop mutual understanding and cooperation in the entire Asia-Pacific Region.

2. The role of traditional military operations in joint undertakings.

Besides purely non-offensive operations, we need to examine the role of another traditional military activity. By way of illustration, joint military actions against a common threat merit a separate study. In this regard, many people would immediately indicate the success of coalition operations against Iraq but such a precisely depicted and unambiguous situation can hardly be repeated in the future. Iraq's invasion of Kuwait created an optimal opportunity to attain agreement: the aggressor was precisely established and an obvious world-scale threat arose; a politically acceptable mission appeared (the removal of Iraqi troops from Kuwaiti territory and the restoration of its sovereignty) and, finally, UN sanctions for military operations followed after all diplomatic and economic measures had been exhausted. But even under these conditions certain countries supported the UN sanctions only under pressure from without and to avoid a political and economic reaction by the world community.

While proceeding from this, we need to continue studying the role of military operations in potential conflict situations first of all to arm governments with precise ideas on possible internal and international consequences of such actions and on variants of the appropriate actions for each specific country. For example, the advisability of participation in the following operations can be examined in connection with such conflicts:

humanitarian assistance (support); search and rescue operations; a presence in crisis areas (a demonstration of force); the conduct of operations to maintain and strengthen peace (under the aegis of the UN or "ad hoc"); operations to interdict (disrupt) sea lines of communication; evacuation of noncombatants (for whom departure has not been authorized); operations against terrorism; hostage rescues; maintaining a blockade regime (observation, quarantine); armed operations (interdicting or retaliatory); and, operations to restore order.

While recognizing how strong the moods are in many countries against such operations, we do not recommend following an exclusively coalition approach. It is important that such issues be examined at national levels and not mandatorily for the purpose of determining the specific threats but in the broader purpose of a proper understanding of a potential conflict and determination of the role and variants of actions of each given country during its resolution. These studies will permit governments to determine their policy prior to the need for such traditional operations arising.

3. Global naval cooperation.

Our initial goal consisted of the development of an outline of long-term regional cooperation based on existing international organizations. One of the basic variants which lay at the foundation of the ideas presented in this document was developed while taking into

account the provisions of the UN Charter on the principles of military organization. Although the development of multinational forces that conduct global-scale operations is a remote prospect, it seems to us that the concept set forth in this idea merits further study.

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Official Department

93UM0759B Moscow *MORSKOY SBORNIK* in Russian No 5, May 1993 93 (Signed to press 6 Apr 93) p 15

[Unattributed article: "Official Department"]

[Text]

Appointment of Vice-Admiral Georgiy Nikolayevich GURINOV as Russian Pacific Fleet Commander-in-Chief

Georgiy Nikolayevich Gurinov was born on 27 August 1939 in Minsk. In 1960, he graduated from the Caspian Higher Naval School imeni S.M. Kirov.

He began his naval service as Deputy Chief of a launch team. Then he was Commander of a Battery, a Department, and Senior Assistant to a Destroyer Squadron Commander. He became a Destroyer Squadron Commander in 1971. In 1975, after graduation from the Naval Academy, he was appointed Chief of Staff and, in 1977, Commander of a Brigade of ships. In 1979, he became Chief of Staff of a Baltic Fleet missile ship division. In 1984, after completion of the Military Academy of the General Staff, he was appointed Chief of Staff of the Kamchatka Military Flotilla and he received the military rank of Rear-Admiral in 1985. He was a flotilla Commander-in-Chief from 1986. In 1988, he was awarded the military rank of Vice-Admiral. He was Black Sea Fleet Chief of Staff from 1989 and Deputy Commander-in-Chief of the Navy from 1992.

He is married. He has a son.

FROM A RUSSIAN FEDERATION PRESIDENTIAL EDICT

"On the Award of Senior Officer Military Ranks to Russian Federation Armed Forces Servicemen"

Award the military rank of:

ADMIRAL to

Georgiy Nikolayevich GURINOV

VICE-ADMIRAL to

Boris Mikhaylovich ZININ

Vladimir Ivanovich KUROYEDOV

Valeriy Aleksandrovich KOZHEVNIKOV

Igor Nikolayevich KHMELNOV

LIEUTENANT-GENERAL OF AVIATION to

Nikolay Andreyevich ROGOV

REAR-ADMIRAL to

Yuriy Fauziyevich AFLYATUNOV

Nikolay Ivanovich RADETSKIY

Igor Grigoryevich ZAKHAROV

Yuriy Vladimirovich STARTSEV

Yuriy Mikhaylovich NICHIK

Vladimir Nikolayevich TSAREV

Vladimir Ivanovich POTAPOV

MAJOR-GENERAL to

Semen Fedorovich PYKHACH

Moscow, the Kremlin [signed] B. Yelstin
20 April 1993 Russian Federation President

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Chief of Naval Rear Services Interviewed

93UM0759C Moscow *MORSKOY SBORNIK* in Russian No 5, May 1993 (Signed to press 6 Apr 93) pp 29-31, 33-34

[Article by Naval Rear Services Chief Rear-Admiral Ivan Fedorovich Vasilyev: "Naval Rear Services: Problems and Prospects"]

[Text] Ivan Fedorovich Vasilyev was born on 1 May 1944. At 17 years of age, he went to work as a lathe operator-turbine specialist at Kryukovo Military Construction Plant. He began his military service as a Black Sea Fleet sailor. He sailed on destroyers for seven years. He graduated from the Military Academy of Rear Services and Transport with a gold medal in 1976 and after that served on the Naval Rear Services staff. He was appointed Submarine Flotilla Deputy Commander-in-Chief for Rear Services—Northern Fleet flotilla Rear Services Chief in 1986. In January 1991, he became Deputy Chief of Naval Rear Services and, in the autumn of 1992, Chief of Naval Rear Services and a member of the editorial board of our magazine.

The practice of combat and everyday activity of the Navy, the interests of increasing its combat and mobilization readiness, and the requirements to implement current naval reform increasingly persistently require further development of naval theoretical thought, including in the direction of the development of the continuously arising complex problems of modern rear services support of naval forces.

Military science defines Naval theory as a system of scientific knowledge that reveals the laws and patterns of armed combat at sea, the principles of Naval organizational development, and its preparation and employment in the Armed Forces system. As we know, Naval Rear Services theory is one of the components of Naval theory and is involved with research of the issues of supplying naval forces with materiel, their accumulation, storage, transportation and also the transfer of supplies to ships and units for the successful accomplishment of assigned missions. So, in practice rear services support is a series of interrelated measures that are conducted by the command authorities and rear services elements to maintain forces at a combat capable state and to create favorable conditions for the accomplishment of assigned missions. In the process, rear services support consists of material, transport, engineer-airfield, airfield-technical, medical, veterinary, retail-consumer, quarters-operations, and financial support of Naval military units and ships.

Organizationally, the rear services support system began to be formed already by Peter the Great which was expressed in the adoption by the Duma of detailed "articles" on the construction and supply of ships on 28 December 1696. So, the First Article stated: "Make the Admiralty Palace at Voronezh for loading any supplies and arrival". They proposed storing food supplies alone for 20,000 men. The Third Article contained a list of materiel that was going to supply ships. The Fourth Article defined the duties of the "admiralteys" [not found], actually the first chief of rear services in the 17th Century Russian Navy.

The rear services system has been improved over the course of the 300-year history of the Navy. And even Admiral Z.P. Rozhdestvenskiy's tragic cruise showed to the entire world an outstanding example in the organization of rear services support of the largest squadron that completed practically a round-the-world combat cruise under the conditions of the lack of support facilities and bases and with the low endurance of ships.

But naval rear services specialists wrote the most brilliant page in history in the period of the Great Patriotic War. They supported the preparation and issuance of materiel needed for intense Naval combat operations: thousands and tens of thousands of torpedoes, sweeps, naval mines, depth charges and aircraft bombs, millions of artillery projectiles and tonnes of fuel, food, and sets of clothing. The volume of rail consists for the Navy during the period of the war totaled 676,000 rail cars. They repaired 8,815 surface combatants and ships. Naval hospitals treated 95,000 wounded and 265,000 sick persons. Naval emergency rescue service detachments salvaged more than 2,780 surface combatants and ships and rescued and refloated approximately 2,000.

Even today naval rear services is intensely laboring. In the process, the reforms that are being conducted in the country are defining as never before the urgency of the

examination of the problems that exist at the present time and the prospects for development of Naval Rear Services.

Rear Services Problems and Ways to Resolve Them

The organization of fleet forces rear services support under modern conditions is a complicated and multifaceted process both by nature and by the volume of missions being carried out. That complexity is caused by the fact that Naval Rear Services has to supply not simply military seamen and some types of weapons and equipment but the most complex combat systems that are combat ships, at permanent deployment locations and also in remote areas of the sea.

Today, the execution of these missions is being complicated by the breakup of many firmly established ties with traditional suppliers and also by the disruption of the naval infrastructure as a result of the withdrawal of Naval forces (troops) from Poland, Germany, the Baltic countries, Azerbaijan and Georgia. Under these unfavorable objective and subjective conditions, rear services personnel are striving to do everything in their power to prevent disruptions in the supply of forces. Last year, nearly 20 of our ships went to support the combat service and more than 20 participated in the transportation of military-technical equipment and combat supplies from the territory of foreign states, including from areas where combat operations are being conducted. Rear services accomplishes a large volume of work to supply Arctic and Far East garrisons. There are more than 250 light-houses and posts alone in these severe areas that are far from the main bases and the amount of material supplied exceeds several hundred thousand tonnes. We must note the great deal of work being conducted by rear service elements to organize the preparation of hundreds of thousands of tonnes of food, especially potatoes and vegetables.

A difficult and large volume of work is conducted to support rebasing Baltic Fleet and Caspian Flotilla forces to new areas. Based upon the Rear Services Product List, we need to rebase materiel worth more than three billion rubles from the Baltic alone. The expenditure of no less than R500 million is required to provide infrastructure at redeployment (rebasement) areas of Rear Services' large formations, units and institutions and materiel supplies being withdrawn. Difficulties are also increasing as a result of the fact that a number of the most important legal aspects of this process and the status of the Armed Forces on the territories of the former USSR have thus far not been coordinated at the state level. Therefore, the local authorities are systematically exerting pressure on the command authorities of combined formations and large formations to prevent the withdrawal of materiel, equipment and weaponry. In the Baltic republics, rolling stock is not being allotted for the evacuation of troops and materiel, additional customs barriers are being created and we have cases of direct infringement on Russian Naval Rear Services property and abuse of official position in the Caucasus republics.

Economic difficulties are significantly increasing objective socio-political difficulties in rear services work. We need to take into account that Naval Rear Services is a continuously operating organism. It is actually already operating under conditions of economic reform which I wrote about in *MORSKOY SBORNIK* No 9, 1991. Under conditions of market elements that have swept over many Armed Forces command and control elements, it is important that the initiative of rear services chiefs be formed on a legal basis that excludes state property from being sold at bargain prices and abuse of official position.

Right now this legal foundation has been created. That is—the 3 November 1992 Russian Federation Presidential Edict "On the Procedures for the Sale and Utilization of Released Military Equipment", the 13 November 1992 Russian Federation Ministry of Defense Order No 231 "On the Procedures for the Sale and Utilization of Released Military Equipment in the Russian Federation Ministry of Defense". In accordance with these documents, the Russian Federation Ministry of Defense Central Directorate of Material Resources and Foreign Economic Relations resolves the issues of the organization, planning, and monitoring of the sale of military equipment and issues authorizations for its sale and utilization. The transfer of written off and released equipment at no charge to organizations of other departments is prohibited and its sale will occur, as a rule, at auctions at free (market) prices. They plan to send the proceeds from the sale of military equipment (with the exception of expenditures associated with the sale) to: 35%—to the Russian Federation Ministry of Defense Central Fund, 30%—to the Naval Commander-in-Chief's Fund and, 35%—to the Fleet commanders-in-Chief funds.

The problems enumerated above affect all of rear services. But I need to discuss the role of its services. By way of illustration, take the Navy's auxiliary fleet. It consists of several hundred support ships which, unfortunately, is significantly fewer than the established manning standard. Many personnel have completed their terms of service and half of the ships have been in operation for 20 or more years. The service life of another 100 ships will expire during the course of the next 10 years. Quite a few ships are being written off annually largely prior to the expiration of their service life as a result of the complexity of the conduct of reconditioning work. Therefore, we anticipate the reduction of the number of ships—up to 54% of the prescribed number in 1995 and up to 51% of the prescribed number in the year 2000.

The situation with the state, supply and support of Naval forces with armored vehicles and equipment has drastically deteriorated under conditions that have been created of the shortage of material resources and the unceasing price increases. At the present time, naval units and large formations are being primarily supplied with equipment that has been withdrawn from the Baltic countries and from the groups of forces.

Naval Rear Services is experiencing certain difficulties in the issues of accumulation and content of the established standards of supplies. Due to the disruption of economic ties and the shift to direct contracts, and the lack of timely financing, only 50-60% of the allocated funds are being made available which is aggravating the problems with supply, especially fuel, food and also clothing.

However here, despite the objective difficulties, much depends on we ourselves. The fraction of the irrational expenditure of fuel associated with repeat sorties of ships to accomplish BP [tactical training] missions is still significant. There is still a great deal of time when ships stand idle with operating GEU [main power plants] while waiting to enter the base or to leave it and also while standing near piers and wharves with the operation of auxiliary mechanisms due to their low availability of power sources (electricity, water, steam, etc.). These irrational expenditures reach 20% of the total expenditure of fuel by surface combatants and ships.

I must also talk about the issues of social protection of servicemen and about the resolution of those social-everyday life problems that each serviceman and each of his family members face. The shortage of housing, children's preschool and cultural-everyday life institutions, the overloading of schools, the meager assortment of food and other goods in military sales stores—that is only a small list which at each garrison is distinguished by its distinctive features. Therefore, these issues are constantly at the center of attention of Naval and rear services command authorities. All the more so that the Russian Federation Presidential Edict "On Measures for the Social Protection of Servicemen, Former Servicemen, and Their Family Members", the Russian Federation Law "On the Status of Servicemen, Legal and Social Guarantees to Citizens Who Have been Released From Military Service and Their Family Members" reveal new capabilities in the resolution of these urgent problems.

Rear Services' Prospects For Development

A significant reduction of their strength, organizational development on qualitatively other principles, and reduction of expenditures for defense is one of the main directions in the reform of the Russian Armed Forces at the current stage. All of this also affects the Naval Rear Services to an appropriate degree.

The following are the main directions of Naval Rear Services reform:

ensuring the conformity of combat and mobilization readiness of the rear services and supported forces;

organization of a comprehensive rear services and technical support system of the fleet forces. The creation of Rear Services Support Areas (RTO) with the accumulation of materiel supplies beforehand is planned in the fleets;

creation of a ramified system of garrison centers of economic-everyday life support to improve the system of social, material-everyday life and other types of support of servicemen and their family members, and also to release combat subunit personnel from the execution of economic functions that are not characteristic to them.

We consider the following to be the defining principles of Russian Federation Naval Rear Services organizational development at the contemporary stage:

the conformity of the Rear Services' organizational structure, composition and troop strength and institutions to the Navy structure;

centralized management of the Rear Services at all of its echelons;

maximum and effective utilization of existing rear services potential, resources and infrastructure;

improvement of the Rear Services military-technical system, orders for equipment and materiel supplies under market economy conditions; and,

bringing the Naval Forces Rear Services Support System up to the level of modern requirements with maximum continuity that operates in peacetime and, without a substantial reorganization, with the initiation and during the course of war.

We plan to implement Naval Rear Services Organizational development in three stages.

1st stage (1992)—analysis of the state and development of proposals for the improvement of the operational equipment of the fleets in a rear services sense, development of rear services material-technical facilities and the accumulation of materiel supplies;

2nd stage (1993-1995)—continuation of the reform of Naval Rear Services institutions, the creation of Rear Services Support Areas for fleet forces with the goal of their comprehensive rear services and technical support and the development of material-technical facilities, the accumulation and echeloned location of materiel supplies, expansion of the share of the civilian sector in their content, planned development of a network of rear services command and control facilities, and formation of a territorial-garrison naval forces rear services support system.

During the course of the three stages, the existing Naval rear services structure remains in its previous composition and organization. Command and control of rear services in the fleets and the composition of fleet Rear Services is preserved.

3rd stage (from January 1, 1996)—completion of the Naval Rear Services reorganization and the transition to the new authorized-organizational structure with the creation of a territorial system of comprehensive fleet forces rear services and technical support.

We understand a territorial rear services support system to be fixed materiel-depot, transport, repair-technical, military and local economic facilities that are located in an individual area (region) and that are united under single command and control with the granting of economic and management independence at its level and that are intended for autonomous and uninterrupted fleet forces rear services support in peacetime and in wartime in the assigned zone of responsibility.

The Rear Services Support System in the Navy that had traditionally and historically developed was formed, as a rule, with the utilization of elements of the territorial principle and with the mission of uninterrupted and full support of all forces that are based in the area. In the process, a centralized system of deliveries was (primarily) preserved which until a certain time corresponded to the economic ties that had developed in the country.

So, a system of military ports, one of which was primary, composed the foundation of rear services support for a prolonged period of time in the Russian and Soviet navies. The structure of the military port was not purely rear services. A line officer headed the military port whose functions also included the organization of defense and guarding the port area from the sea and land. The composition of the military port consisted of departments: artillery, mine-torpedo, chemical, communications, technical, transportation-warehouse, food-fodder, quarters-operations, and the sanitary authority. Naval Rear Services was centralized and unified for more than 230 years.

At the present time, definite practical experience has been accumulated in the Navy for supporting fleet forces according to the territorial principle: the existence of the military port system in the Russian and Soviet navies; and, the functioning of maritime defensive areas. In the Navy, Fleet Rear Services Divisions have been functioning at the operational rear services echelon and have been utilizing individual approaches to the support of fleet forces according to the territorial principle in their activities over the course of many years. Fundamentally new territorial rear services support elements—Rear Services Support Areas (RTO) (Baltiysk and Liyepaya RTO's)—were created as an experimental organization in the Baltic Fleet in October 1988 and are currently successfully carrying out the support of fleet forces.

The functioning of the Baltiysk and Liyepaya RTO's during the course of the last four years and the research exercise that was conducted in 1989 in the Baltic Fleet for the Rear Services Support Area to support fleet forces resulted in the conclusion on the fundamental need for further development of the theory and practice and also the introduction of the territorial forces support system with the granting of greater authority to regional rear services elements to conclude direct contracts for the delivery of supplies and to increase their responsibility for the completeness and quality of naval forces support.

We can characterize the effectiveness of the functioning of just the Baltiysk RTO during 1991 based upon the following indicators that were attained in the area's activities: 213,598 tonnes of various cargoes were processed; 197,200 tonnes of supplies were centrally issued to ships; RTO auxiliary fleet support ships delivered 12,700 tonnes of fuel and over 36,000 tonnes of various materiel to ships at sea; and, RTO motor vehicle transport transported more than 8,500 tonnes of various cargoes. It would have been practically impossible to attain this under the previously existing structure (Naval Base Rear Services).

We can consider the following to be among the primary advantages of the RTO's that exist in the fleet:

sufficient fixed warehouse capacity under which Rear Services Support Areas are capable of totally carrying out support missions of fleet forces and of units of other services of the Armed Forces and other types of troops according to the territorial principle;

materiel supplies in Rear Services Support Areas that permit them to supply ships and fleet units in the operational zone of responsibility with the maintenance of their autonomous operations for up to 30-40 days;

subordination of Rear Services Support Areas, as a rule, directly to the fleet rear services chief which reduces multiple echelons in the management of rear services and facilitates the maneuver of supplies; and,

the survivability of fleet Rear Services command and control as a whole and the Rear Services Support Areas' TPU's [Rear Services Control Points] can assume the functions of the fleet Rear Services' command and control elements if necessary.

The capability for qualitative and effective support of not only large formations and units that are permanently attached but also of surface combatants and ships that carry out inter-theater transfers is a very important indicator of the advisability of the RTO structure that has been created.

Considering what has been set forth, we propose a further structural change of the fleet Rear Services' elements by withdrawing from the subordination of the appropriate commanders-in-chief (commanders) of flotillas (naval bases) and the creation based upon them and based upon Rear Services Support Areas' fleet rear services departments with bases and depots in their assigned area of responsibility, granting them the appropriate rights and obligations for increasing independence both on the adoption of decisions in support of forces and also for cooperation with local industrial-economic organs, bases and institutions. It would be advisable to have the military echelon rear services support elements—coastal bases and the rear services of large formations and units—directly subordinate to large formation commanders.

The proposed system will permit us to more effectively utilize rear services personnel and equipment and to concentrate them on the resolution of the primary missions.

The Rear Services Support System according to the territorial principle will consist of three precisely divided levels:

1. Fleet Rear Services (command and control of fleet rear services and the large formations, units and institutions subordinate to it).

2. Operational Rear Services based upon existing flotilla rear services and also the created Rear Services Support Areas with their subordination to the Fleet Deputy Commander-in-Chief for Rear Services.

3. Combat Rear Services (coastal bases subordinate to the appropriate commanders of large formations, military units rear services, aviation-technical bases and staffs).

This structure will permit us to substantially increase the effectiveness of command and control by excluding intermediate rear services command and control echelons (at the flotilla, squadron and naval base level).

The Rear Services Support System based upon the territorial principle, having general principles of structure and functioning for each fleet, will have its own distinctive features while taking into account the missions being carried out by the forces, geographical position, and development of the local military-economic base. However, we need for the process of reform, especially under conditions of the reduction of the Russian Federation Armed Forces, to consider the scientifically-substantiated percentage content of combat and supporting forces. So, in the U.S. Army Rear Services strength (with technical support elements) is 48% and there were five support personnel for each fighter from the composition of the anti-Iraq coalition armed forces during the course of the Persian Gulf War. At the present time, our Navy's Rear Services is no more than 2.8% of total strength. The Naval Rear Services Organizational Development Concept envisions increasing this level in operational rear services to 9-10% and in combat rear services—up to 10-15%, that is, it envisions a slower reduction in contrast to combat forces.

In conclusion, I must say that the process of Naval Rear Services reform will be complicated and contradictory. Life will make its adjustments to any concept or program. We need to conduct the transition to the new Naval Rear Services authorized organizational structure that takes into account the new economic relations in the country in such a way that it is as painless as possible. Under these conditions, many of our managers will have to radically change their work style, learn how to work under new conditions, and learn, as they say, "without a break from production".

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Journalist Describes Status of Baltic Fleet Amphibious Forces

93UM0759D Moscow MORSKOY SBORNIK
in Russian No 5, May 1993 (Signed to press 6 Apr 93)
pp 39-40

[Article by Captain 2nd Rank P. Vetlitskiy: "It Is Difficult to Talk About the Current and Future Baltic Fleet..."]

[Text] Having arrived in Kaliningrad, as one should, I went to fleet headquarters to introduce myself to its leadership and to report the editorial staff's task. Baltic Fleet Chief of Staff Vice-Admiral V.V. Grishanov received me. In the waiting room, they warned me that the time limit that the Admiral had for the conversation with me was extremely limited. Therefore, having introduced myself and having reported my plans, I decided to ask him only one, although quite broad, question: "How do you see today's and tomorrow's Baltic Fleet?" Valeriy Vasilyevich smiled: "It is difficult to talk about the current and future fleet... Right now we don't have enough time to talk about all of the problems. Therefore, first go to the garrison, get acquainted with the situation, talk with the officers, learn their mood, and let's return to that issue later".

"Today" and "Tomorrow" of the Amphibious Forces Large Formation

The next day I was at the garrison and I immediately went to the amphibious forces large formation. I spent the first ten years of my officer service here and I am familiar with everything and everything is dear to me. Having climbed on board the flag ship, I immediately received an invitation to go to the cabin of Large Formation Chief of Staff Captain 1st Rank S.R. Delyusin. The position of Chief of Staff is demanding and it would have been awkward for me to deprive him of time with a lengthy conversation, therefore, having briefly responded to Sergey Rufovich's questions about my duty and life in the capital, I immediately shifted to the main point: "How do the Baltic amphibious forces live today and what are their prospects?"

"The state of the amphibious forces today and all the more so their prospects do not cause optimism," the Chief of Staff responded. "You know that our ships were previously not detained at the piers. Since March, after taking the first course assignments and the rehearsal at sea of an amphibious landing by a single ship, then—as part of a division and large formation. All summer—training, preparatory, and performance evaluation exercises, artillery firing and mine laying. Amphibious landing ships annually performed combat service. And we boldly and in a substantiated manner talked about the high results of our amphibious training".

Yes, Captain 1st Rank S. Delyusin was not exaggerating. In the 1970's-1980's, the Baltic Fleet amphibious landing ships large formation was called the best in the Navy for six years running and was entered on the

Central Naval Museum Board of Honor. It was awarded the Order of the Red Star in peacetime which in and of itself is a great rarity.

"Large-scale exercises of the "Okean", "Atlantika", and "Zapad" type, during the course of which we rehearsed the interaction of all fleet forces and ground forces units while conducting the most complex type of combat operations—the amphibious warfare operation—have currently faded into the past," continued Sergey Rufovich. "Right now we mainly fight on maps and we conduct command post exercises with designated forces, involving the minimum number of ships and naval infantry subunits. Of course, that is inadequate for improving the amphibious warfare skill. Today at best we can talk only about preserving the level of amphibious training and that is by stretching the point a bit".

Actually, the statistics speak for themselves. The number of exercises associated with an actual landing of an amphibious force is decreasing year by year: 1990—six exercises, 1991—five, 1992—three, and two exercises have been planned for 1993.

"And one more thing," noted Captain 1st Rank Delyusin. "In past years we had accumulated in the fleet a large amount and multifaceted experience in the conduct of landing amphibious forces of various sizes. In the process, the amphibious forces formation staff, the nucleus of which is our large formation's staff, is the primary, if not the only, accumulator of that experience. In connection with this, we need to stress that under conditions of Armed Forces strength reductions, not their simple arithmetic reduction but a substantiated reorganization of the forces would be reasonable in order to preserve not only combat capable ships but also combat capable staffs.

"It is probably still early to write off amphibious forces. Examples of the combat operations of our time, for example, in the Anglo-Argentine conflict, in Grenada and in the Persian Gulf, the continuing construction of amphibious warfare ships abroad, and the Team Spirit and Team Work type exercises attest to the serious attention of foreign navies to this type of activity and concern about equipping and training national large formations of amphibious warfare ships and naval infantry in the event of military conflicts, the probability of which can in no way be excluded in our uneasy time."

Already after the conversation with the chief of staff, while walking along the pier wall along the high sides of amphibious warfare ships, I reckoned: the average age of the ships here is 13-15 years. Therefore, if we stop the development and construction of ships of this class, the Baltic Fleet amphibious forces will simply cease to exist in 10 years. As the large formation staff has calculated, during the last three years the amphibious capacity of their ships has already decreased by one fourth due to writing off ships that have completed the prescribed periods of service. We haven't heard anything about the construction of new amphibious warfare ships. Yes and

the military experts who are discussing the difficulties of the current time and the need to reduce the Navy's ship strength somehow amicably and silently avoid the prospects of their development, obviously fearing populist accusations of expansionism. The lessons of war have really been forgotten when the absence of such ships turned out to be additional and large numbers of victims. They are not intended for the seizure of coastal territories but for assisting ground troops on maritime axes, including in the active defense. For the time being, it is actually difficult to talk about the future of this large ship formation. And what about the others?..

In the Mirror of Sociological Research

The certain ambiguity that has appeared in the orientation points of the combat utilization of ships, the reduction of the intensity of combat training, the uncertainty of the prospects in service—all of this must have an impact on a complex fleet organism like a ship's crew. How is it today? I turned to now already Antisubmarine Warfare Ship Large Formation Deputy Commander Captain 2nd Rank I.A. Dikiy with that question.

"Without a doubt, the intense rhythm of combat training is the main factor that cements crews," responded Igor Aleksandrovich. "The goal-oriented approach toward successful accomplishment of missions at sea, especially combat exercises and long cruises, certainly unites people, forming on the whole real comradely relations among fellow servicemen, superiors and subordinates. Under current conditions, the fleet collective in the former concept is losing its monolithic character in a certain sense, breaking up into groups by position categories, by term of service and by many other positions".

In confirmation of his words, I.A. Dikiy cited data of sociological research that has been conducted in the large formation. Based upon the assessment of the officers and warrant officers themselves, only 27% of them know their subordinates, their needs and aspirations to an adequate degree. Sixty four percent indicate that they far from completely control the situation in subordinate subunits and, what is most troubling, they are not striving to do that. A poll of compulsory service personnel confirms the data cited. Only 14% of them note that officers and warrant officers strive to look into their problems and 35% indicate that they, with the exception of purely official issues, practically do not associate with their commanders and superiors.

And the increase of indifference toward the accomplishment of their official duties by all categories of servicemen is one more negative trend that characterizes the state of military collectives today. Thirty two percent of officers and warrant officers named this as the primary reason that is capable of really lowering the combat readiness of their subunits, ships and entire large formations. It is already not a secret for anyone that dissatisfaction with their material (100% of the officers and warrant officers) and duty (more than 80%) situation is forcing the Navy's cadre to seek the application of their

efforts outside the service sphere. So, 19% of officers and warrant officers admitted that, despite the ban, they are involved in commercial activities, which at all times was alien and disapproved among fleet officers. Today, the merchants-officers do not find condemnation among their fellow servicemen. Moreover, 40% of those polled stated that they themselves are not averse to being involved in a search for additional income but they still don't know where or how to apply the efforts.

"There's no need to dramatize the situation," notes Captain 2nd Rank I. Dikiy. "Those negative factors in the military collectives which you and I discussed have still not become predominant. However, it is also impossible to underestimate these trends. Therefore, we will be able to preserve the traditions of the fleet collective in our crews in the concern about the officer corps and not only on the governmental level but also locally and in support on it. And there is a basis for that: the high prestige of a ship's officer which is preserved both in the people, in society and among personnel that more than 60% of our polled servicemen confirmed".

What Kind of Augmentation Is Coming Into the Navy

The fire alarm bells sounded, which announced a "Large Assembly" and in several minutes the personnel of the large amphibious assault ship stood stiffly at attention. Ship Commander Captain 2nd Rank S. Shopyrev, having interrupted his conversation with me, went out onto the forecastle. A roll call indicated that a young sailor, who was called up for service three months ago, was absent. Painstaking searches for him in all of the ship's spaces and on the territory of the shipbuilding plant where the BDK [large amphibious warfare ship] stood did not yield any success...

The Commander's further orders stated that the organization of a "search for a deserter" on the ship had already been worked out. Teams of servicemen were being sent to the train station, the border outpost and other "hub" points and also to search the dacha lands of Baltiysk residents where experience has shown that "deserters" love to hide themselves. It was obvious that, having caught sight of the question in my eyes, Captain 2nd Rank Shopyrev sadly smiled: "Yes, we have managed to undergo training, this sailor is far from the first on the ship or in the large formation".

"Aren't relations at variance with regulations the cause for a young sailor to leave the unit?," I asked.

"In this case—no," Deputy Ship Commander for Personnel Captain-Lieutenant Yu. Grechkin entered into the conversation. "From the first day, this sailor became the object of our rapt attention because he stated his unwillingness to serve immediately upon arrival. We talked with him almost daily and yesterday he submitted a request and this is what he wrote: 'I dare to report that it does not appear possible to serve on the ship because my state of health does not permit that...'"

"The doctors recently examined him—he is quite healthy," the Commander anticipated my question. "He simply does not want to serve and, unfortunately, he is not alone in that desire."

The young augmentation—that is tomorrow's navy and in this context the assessment of Baltic Fleet Deputy Commander-in-Chief Vice-Admiral V. Kravchenko that was expressed on the pages of the fleet press is revealing: "... From ancient times, it has been thought that the Navy is strong due to its ships and the ships due to those people who service complex equipment. The quality of the draft contingent causes serious concern among us: the majority of those arriving in the Baltic Fleet are young men who are spiritually, physically and morally unprepared for service." The sociologists who conducted the initial socio-psychological survey of the augmentation that arrived in the Baltic Fleet confirmed this. Alas, their data is not encouraging: hardly every third or fourth has a positive attitude toward service, more than a third do not hide that they will evade fulfillment of their official duties under various pretexts, and every twentieth frankly sates that he will attempt to leave his ship or unit at the first opportunity.

There are many indicators that characterize the current augmentation of the fleet but the overwhelming majority of them do not cause a great deal of optimism. I heard about the new "category" of servicemen that has recently appeared from officers of an antisubmarine warfare ship: "day sailor"—on the whole disciplined, industrious and controllable, and the "night sailor"—the insolent serviceman who is capable of a serious violation of the law. It is especially difficult to work with such "two-faced Januses". They seriously destabilize the situation in their collectives and, the main thing, they undermine the trust of the remaining sailors in the capability of commanders to establish firm observance of regulations. Everyone with whom I had the opportunity to discuss the problems of the young augmentation in those days under current conditions see only manning ships exclusively on a contract basis as the solution to the situation that has developed.

Instead of an Epilogue

It's no secret that the problems that were touched upon here of the large ship formations at Baltiysk, one can say, today the most stable garrison of that fleet, both for them and also for the fleet as a whole are not complete and do not have a significantly great urgency. Suffice it to say that the withdrawal of Baltic Fleet forces from the states of the Baltic Region entails the fleet's loss of the best bases, the best ship repair plants, and the best housing. And 308 fleet subunits are being withdrawn from the Baltic countries, 149 are being disbanded, and the fleet will be reduced by more than a third in strength. And the question of the future of the Baltic Fleet acquires a quite definite dramatic tint in this context alone, without taking everything else into account.

I could not meet with Baltic Fleet Chief of Staff Vice-Admiral V.V. Grishanov to share my impressions on the temporary duty assignment or to learn his response to my question. Valeriy Vasilyevich was busy—the Commander-in-Chief of the Navy had begun work in the fleet. But Baltic Fleet Commander-in-Chief Admiral V. Yegorov's short response to STRAZH BALTIKI newspaper's question provides food for thought: "What is the most important mission that Baltic Fleet seamen face today?"

"To survive and to preserve a combat ready fleet."

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Russian Naval Construction for Export

93UM0759E Moscow MORSKOY SBORNIK
in Russian No 5, May 1993 (Signed to press 6 Apr 93)
pp 49-55

[Articles by A. Korolev, V. Polyanskiy, and G. Mangayev: "'IDEX-93': An Exhibition That Showed Russia's Potential..."]

[Text] As is generally known, the first international arms exhibition in the Middle East took place from 12 through 18 February 1993 in Abu Dhabi (United Arab Emirates [UAE]). MORSKOY SBORNIK described the preparation of the domestic naval exposition for it in No 2, 1993. Here the focus is the exhibition itself, its participants and, above all, Russian naval export—its state and prospects. Our delegation's members to the exhibition in Abu Dhabi—"Sudoeksport" VP [not found] Equipment Export Department Chief A.I. Korolev, Naval Shipbuilding Directorate Chief Vice Admiral V.A. Polyanskiy (he fulfilled the duties of expert on naval issues within the Russian delegation) and Zapadnoye PKB [Planning and Design Bureau] Chief-General Designer G.A. Mangayev—discuss this.

Based upon the world press assessment, the exhibition at Abu Dhabi did not have any equals in the past. Nearly 400 firms and corporations (from more than 30 of the world's countries), that produce or collaborate in the development of weapons and military equipment, participated in it. It's no accident that the United Arab Emirates acted as its organizer. The fact is that acute interstate contradictions and first of all—territorial in nature—are being maintained between the countries of this Middle Eastern region. Among them—are the dispute between Iran and the UAE because of the three islands located at the exit from the Strait of Hormuz into the Persian Gulf; there are "disputed" factors between Saudi Arabia and Qatar, Yemen and Saudi Arabia, Qatar and Bahrain, and Iraq and Kuwait. It is probable that it is one of these factors that is prompting the neighbor-countries to strengthen and maintain their armed forces, including the navy, at the modern level.

In general, for the countries of this region, our state—more precisely, the USSR, is a long-standing partner in military cooperation and this means that they are quite

familiar with Soviet military equipment of various combat roles. Soviet naval weapons, including surface combatants, have occupied a special place here. This, to the uninitiated glance, could appear to be surprising but in the 1980's the USSR was the leader in world export of surface combatants and ships. It was at that time that foreign customers received 146 surface combatants and combatant craft from us which totaled approximately one-fourth of the total world volume of export models of that type of product. Germany occupied second place behind us in those years and, in general, export versions of surface combatants and ships were built in 17 of the world's states.

After the collapse of the USSR in August-December 1991, the situation on the world market abruptly changed. As of today, Russian arms exports have declined by a factor of 2.5, as a result of which the United States, which exports nearly half of the world amount of this product, has emerged in first place in the arms and military equipment market. Besides Russia, Germany, France and Great Britain compete with it. India, Israel and Turkey lead among the purchasers of military products. If we are talking with regard to naval equipment and arms, India, Saudi Arabia and Egypt remain the largest importers. Therefore, in order to restore the positions that are so necessary for our current state, for the first time Russia so broadly presented for open display of full-scale and advertised products of modern and future models of arms and military equipment that are intended for sale. And it is entirely natural that models of naval equipment (surface combatants and combatant craft, their weaponry and technical systems, weaponry of the coastal troops and also of the naval auxiliary forces) were demonstrated here.

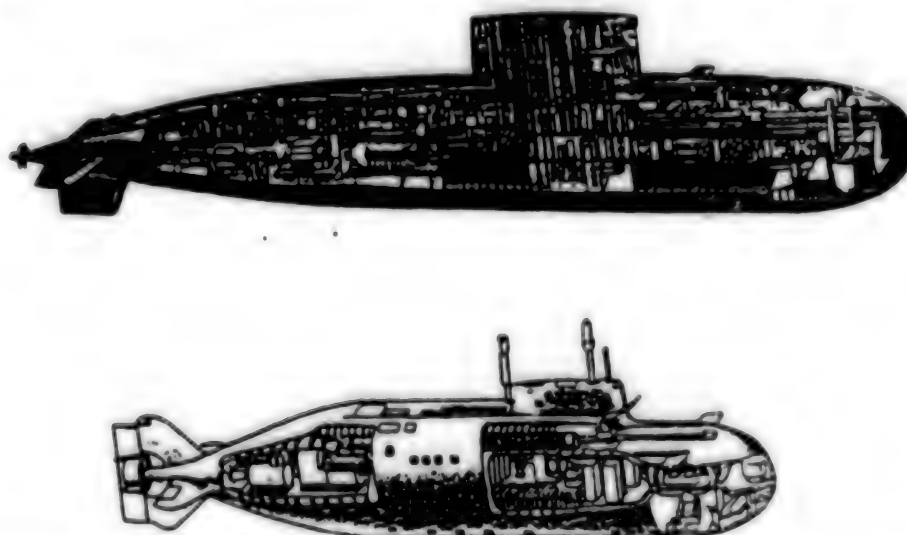
Submarines, escort ships and frigates, combatant and patrol craft enjoy the greatest demand on the world arms

market. In the process, if for example, 15 of the world's countries offer escort ships and combatant (and also patrol) craft for sale, only Russia and Germany develop submarines for export. We need to note in this regard the fact that despite the processes that have occurred in the world during recent years, the military products market has not undergone significant changes. The latter have affected to a certain degree only the volumes and geography of exports and imports. While talking about the changes in our country that are associated first of all with the destruction of inter-republic ties and the departure from the previously unified shipbuilding complex of a number of Ukraine's large plants, we need to note that nevertheless approximately 90% of our shipbuilding potential has remained in Russia. And if we talk about scientific and design organizations in this sphere, it is even greater. Therefore, we could have presented even more widely than before the product list of naval arms and the most modern models of them at the exhibition at Abu Dhabi.

Among them, the Design 877-EKM diesel-electric submarine and also the new developments—the Designs 636 and "Amur" DEPL [diesel-electric submarines], and the "Piranya" (Design 865) and "Triton" supersmall submarines have already quite successfully recommended themselves. The latter exceed similar foreign models both in weapons complement and also in sailing range.

Our Russian surface combatant shipbuilding was also widely displayed at this exhibition. Its products included ships—destroyer designs developed for export (based upon the "Sovremennyy" Class EM [Destroyer]), a large antisubmarine warfare ship (based upon the "Udaloy" Class BPK [large antisubmarine warfare ship]), the Design 11356 escort ship (based upon the "Bditynyy" Class SKR [escort ship] design that has been adopted),

Figure 1. Overall View of the Design 877-EKM Diesel-Electric and the Design 865 "Piranya" Supersmall Submarines.



and the Design 11661 small escort ship (code name "Gepard") that are equipped with powerful weapons and technical systems; a number of modern surface combatants of already "realized construction"—Designs 1239 ("Sivuch" Class), 12322 ("Zubr" Class), 12061 (hydrofoils) of various combat roles of which there are no similar ships in the world, the Design 1241-PE small antisubmarine warfare ship, the Design 266-ME ocean minesweeper, the Design 1265-E coastal minesweeper, the Design 1258-E and 10750-E harbor minesweepers, and also the Design 02065 (with removable weaponry), 14310 ("Mirazh" Class), 10412, and 1241-PE combatant craft. Furthermore, information was also displayed at the exhibition on future surface combatants, craft, ships whose designs could be adjusted in accordance with a customer's wishes.

As a rule, models of naval products were mainly demonstrated in the form of advertising prospects, mock-ups, video films, etc. And that concerned both ships and their weaponry or other naval equipment. I add the following to what was said in *MORSKOY SBORNIK* No 2 1993 with regard to ship weaponry. The "Klinok", "Rif" and "Shil" shipborne surface-to-air missile systems that were demonstrated in Abu Dhabi, along with materials on the "Piranya" supersmall submarine and our new Design 10750-E harbor minesweeper caused, perhaps, the greatest interest among visitors. Besides these surface-to-air systems, materials were exhibited on the "Moskit" and "Uran-E" antiship systems and the "Bal-E" and "Bereg" mobile coastal firing systems.

Information was presented about such Russian-made torpedoes as the 53-65-KE (long-range oxygen homing), SET-65-E (electric homing), USET-96-M (universal electric homing), and the TEST-71-ME (television-guided electric homing).

A large area was set aside for the exhibition of domestically-produced both ship (submarine) and aircraft naval mines. Here you could have familiarized yourself with the primary tactical-technical specifications and principle of operation of a large family of bottom mines (the MDS, UDM-2, UDME, DM-1, SMDM, MDM-3, MDM-4, MDM-5, MDM-1 and MDM-2 types), the KPM shipborne antiassault landing mine, the PMR-2 antisubmarine mine-missile, and also the PMK-1 antisubmarine mine complex.

The VNT influence helicopter sweep, the self-propelled multi-mission hydroacoustic countermeasures instrument, and also the self-propelled torpedo decoy instrument (code name MG-104), the radio-control system for arming television-guided crew-less ships ("Kozhimit") and the "Poyma-E" radar information processing system also found their place.

It is clear from what has been stated above that this, even incomplete, list of the models of our naval equipment that were displayed at the exposition attest to its defensive orientation. As for whether in so doing new contracts were concluded with foreign partners, we need to

stress that our participation in the IDEX-93 Exhibition was first of all familiarization in nature and was intended for countries that in the future will be able to orient themselves on our military products. I think that we demonstrated the potential of the Russian defense industry and, furthermore, also achieved other goals that we had planned for ourselves while setting out for Abu Dhabi.

And in conclusion, about those who actively participated in the development of the Russian naval equipment exposition—about its developers and builders. Their list here is far from complete. But, specifically, the country's leading defense complex design-construction organizations and enterprises—"Rubin" TSKB MT [Maritime Equipment Central Design Bureau] and "Malakhit" SPMBM [not found] (submarine construction), Severnoye, Zapadnoye and Zelenodolskoye PKB, and also "Almaz" TsMKB [Central Maritime Design Bureau] (surface combatants and combatant craft), "Salyut" KB [Design Bureau] GMZ [not found], "Altair" NPO [Scientific Production Association] and "Uran" NPO (naval weapons), "Zavod Krasnoye Sormovo" (submarines), "Almaz" SO [not found] (combatant craft and hydrofoils), "Vypel" [not found] (combatant craft), "Tulskiy Mashinostroitelnyy zavod" [Tulskiy Machine Tool Plant] GP [not found] (a number of models of artillery weapons) and many other organizations and enterprises—subcontractors—developed the products that caused the greatest interest among foreign specialists-guests of our exhibition pavilion.

A. Korolev

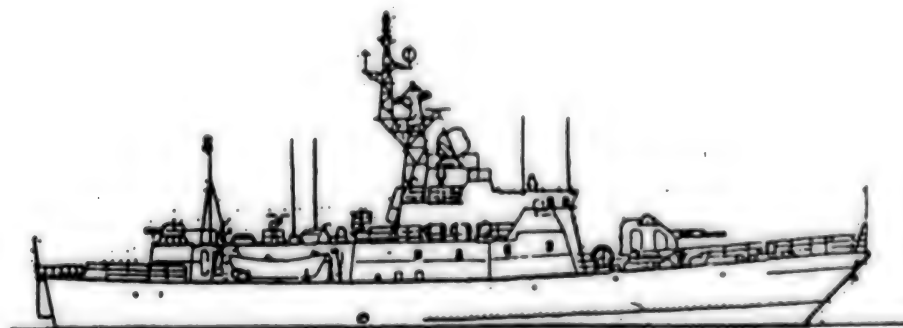
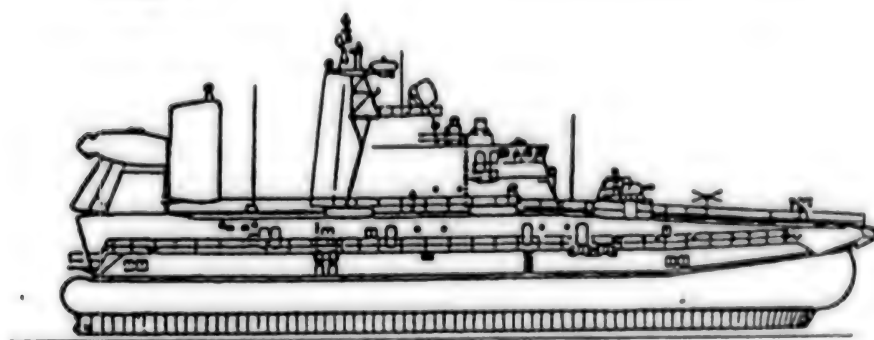
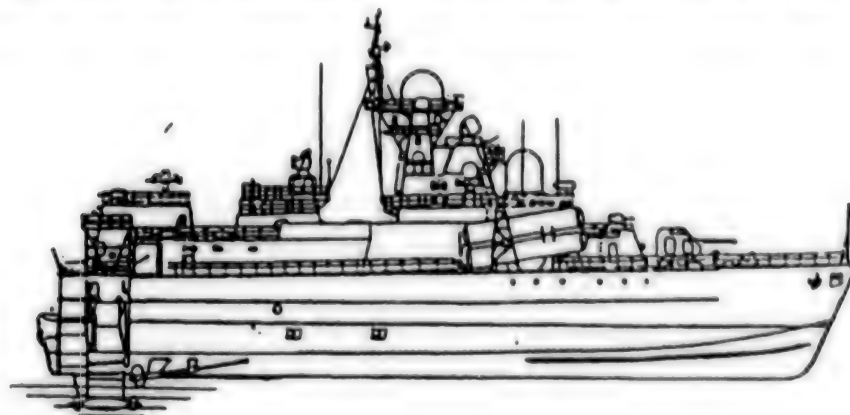
As a specialist in the sphere of military shipbuilding, I was first of all interested in everything that was associated with them and what was presented in that context at the exhibition by other participating countries. I want to note that the subject matter turned out to be approximately identical with regard to shipbuilding.

Individual models of weapons and equipment, their models and advertising materials with general tactical-technical specifications were presented. In the process, the differences between our exhibits and Western exhibits perhaps consisted only of the design, the well-thought out nature and the colorfulness of the advertising materials, and in the ability to present them to greatest advantage. Unfortunately, we markedly lagged behind in that.

If we talk about the models of weapons and military equipment that were the most interesting for us, models of modern surface combatants, diesel submarines and comprehensively equipped ships attracted the most attention at foreign expositions. They have quite a bit that is useful for our designers, for example, in relation to layout decisions, system standardization, automation, maintainability, information content and diagnostics.

We need to note that a number of foreign ships of various classes were at the Port of Abu Dhabi at that time for the purpose of demonstration: the S.B. Roberts (United States), Duplex (France), Zeffiro (Italy) and Van der Zaan (the Netherlands) guided missile frigates and

Figure 2. Side View (from above to below) of the Design 1239 ("Sivuch") Missile KVP [surface-effect ship]; the Design 12322 ("Zubr") Amphibious KVP; and, the Design 10412 ("Mirazh") patrol craft.



also the guided missile destroyer Nottingham (Great Britain). Our Admiral Tributs Udaloy Class Design 1155 large antisubmarine warfare ship was also moored here.

Examinations of these ships revealed that Western ship-building has a specific direction in the search for technical solutions: for the most rational location of ships' weapons and technical systems, the reduction of the level of physical fields (including thermal and radar), improvement of systems to combat for survival (a high degree of information content and automation of command and control), ensuring the ease of servicing of ship and other systems and also the attainment of the capability to ensure maintainability and modernization.

The foreign experts who visited this ship gave a high assessment to the combat capabilities of our Admiral Tributs BPK [large antisubmarine warfare ship]. In the process, they noted its superiority over other (foreign) surface combatants that were being demonstrated at Abu Dhabi and the capability to carry out PLO [ASW—antisubmarine warfare] missions—to combat submarines. At the same time, the experts were very interested in our BPK's anti-aircraft system and acoustic weaponry.

On the whole, the naval department of the Russian exposition caused the persistent attention of the visitors. In their opinion, our surface combatants and surface craft in the majority of primary indicators do not lag

behind similar foreign ships and they exceed them in a whole series of indicators. An informal exchange of opinions with representatives of foreign firms, who at various times had the opportunity to assess the combat qualities of our ships that are supplied for export, confirmed that. So, for example, American experts, who participated in the conduct of comprehensive tests of one of them after its transfer from Germany to the United States (these craft had previously been supplied from the USSR to the GDR [German Democratic Republic]), spoke highly of our Design 1241-PE missile boats. It is no accident that Germany and the United States have once again manifested interest in these combat ships but already equipped with more modern missile complexes.

However, our diesel-electric (Design 877-EKM) and super-small (Design 865) submarines, missile boats, "Kortik" and "Uran-E" missile systems, torpedo and mine weapons were given the greatest attention.

Returning to the expositions of other countries, we need to note that its examination permitted us to become acquainted with the achievements and prospects of the development of shipbuilding abroad and to assess the primary directions of the solution of technical problems during the development of modern ships. If we make general conclusions, the ships that were built 7-8 years ago are practically at an identical technical level. Moreover, the broader introduction in them of variable-pitch propellers and combined diesel-gas turbine propulsion plants (in contrast to ships of the United States and Russia, where both "purely" gas turbine combined propulsion plants and also combined propulsion plants are employed) as propulsion devices attracts attention.

And one more thing. The Netherlands Van der Zaan Guided Missile Frigate, that entered the navy inventory quite recently, presented special interest for our experts. Many solutions on the introduction of fiber-optic technology and automation that are known to us found their embodiment on this ship and a large number of measures were accomplished to reduce the levels of physical fields. In the process, special attention has been devoted to the reduction of the thermal and secondary radar field. Experts noted that scale models and full-scale mock-ups were employed during the development of this ship that permitted them to avoid major alterations or finishing during construction based upon the results of tests of the head ship, and good maintainability of equipment and mechanisms (the passageways on this frigate permit the transportation and unloading of any mechanisms without removal of the plating with the exception of outsized equipment) was also attained, the service life of which is equal to the ship's service life.

Recently, increasing attention is also being devoted to a similar direction of work during the design and construction of ships in our country and it is being realized in ships being designed. Therefore, familiarity with foreign experience in these issues certainly was useful for the main designers-members of our delegation and it would

be advisable in the future to become acquainted with them at similar exhibitions and with Naval specialists who are associated with the issues of shipbuilding.

V. Polyanskiy

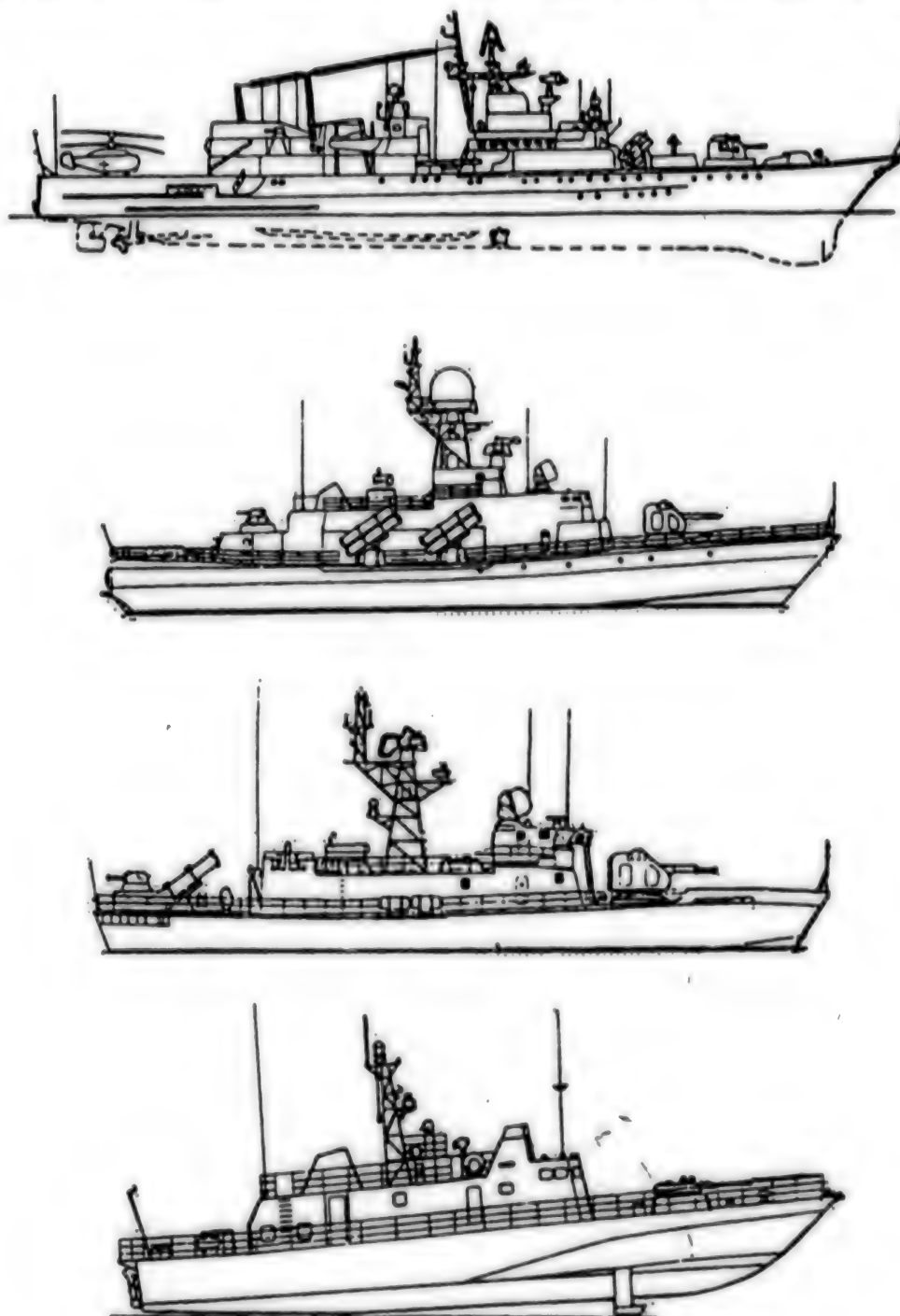
Our Zapadnoye Design-Construction Bureau—is one of the oldest Soviet PKB's that operates in the sphere of military shipbuilding. The primary direction of our activity is designing and participation in the development of designs of newly constructed ships and those that are being modernized: mine-countermeasures ships, search and rescue service ships, floating docks and a number of other floating craft. At the exhibition at Abu Dhabi, we were represented by widespread advertising information both on sea-going (Design 266-ME) and coastal (Design 1265-E) minesweepers for export that are being built for sale abroad, and also on a new model—a Design 10750-E harbor minesweeper that is being offered by Russia for possible export sale for the first time. All of the ships are modern and capable of adequately effectively carrying out their characteristic mine defense missions. As for the Design 10750-E harbor minesweeper, at the exhibition we stipulated our readiness to consider the desires of foreign customers for the development of the design which was initially developed with regard to the requirements of our Navy. Besides these ships, we also exhibited others there.

If we talk about modern trends in the construction of mine countermeasures ships abroad, I will note that we could have learned certain information in this sphere that is far from complete at the pavilions of France, the Netherlands, and Italy and also at the stands of individual German firms. The United States, like the countries cited above, which is the developer and builder of its own PMO [mine countermeasures equipment], did not present its achievements in this sphere this time. In general, the mine countermeasures ships of the foreign states that participated in the IDEX-93 Exhibition were presented, like ours, through advertising products, there were no minesweepers from the navies of these countries at Abu Dhabi. With regard to us, in my opinion, this is a serious omission in the preparation of the exhibition. By way of illustration, we would have been entirely capable of sending one of the newly-built Design 1265-E coastal minesweepers here and our naval exposition, reinforced by a "real" ship, would only have gained from this.

And yet, despite the highest level of design of the advertising information of the Western firms that are participating in the development of mine countermeasures ships, our materials on the Design 10750-E harbor minesweeper caused the unquestioned interest of foreign experts who visited the Russian pavilion.

But this is not surprising because this ship was practically unknown to them prior to the exhibition. And furthermore, we should not forget that this exhibition was first of all prepared for the countries of this region

Figure 3. Side View (from above to below) of the Design 11356 Escort Ship; the Design 12418 ("Molniya") Missile Boat; the Design 02065 Patrol Craft in the Missile-Artillery Variant; and, the Design 14006 Patrol Craft.



and therefore their representatives, being potential customers, manifested the greatest interest in average and small displacement ships and craft (frigates, corvettes, small escort, antisubmarine warfare and missile ships, the "coastal" and "harbor" subclasses of minesweepers, and amphibious landing craft), and also in the primary types of combatant craft (missile, torpedo, patrol), submarines, and underwater-saboteur craft.

Now briefly about what I was first of all interested in the work of my foreign colleagues and, the main thing—in the sphere of the development of mine countermeasures ships. For example, the view on the development of a type of mine-countermeasures ship like the mine hunter was already formulated comparatively long ago abroad. The presence of specialized GAS [SONAR equipment] mine hunter, besides traditional mine-countermeasures weaponry), on these mine hunters and also underwater television-guided devices or other devices for the search, detection, classification and destruction of enemy sea mines and, first of all influence and bottom mines that are ahead along the course, are an outstanding characteristic of these mine-hunter ships. The promising future of this direction is obvious. In our country, primarily until recently, similar underwater devices, so-called mine hunter-destroyers, were developed as systems that were towed behind the stern of minesweepers. Although by the present time we do have to a certain degree our own developments here. We need to admit that if today the navies of France, Italy, Great Britain, the United States and Germany are somewhat ahead of us in the development of mine hunters, we are moving on a par with and even somewhat ahead in a number of other primary directions in the sphere of development of mine-countermeasures ships. Of course, besides their mine-countermeasures weaponry (underwater mine-countermeasures devices), the successfully solved and realized in "metal" tasks for the reduction of their own physical fields, the availability of dynamic positioning systems, automation of mine-countermeasures operations, mastery of the technology of developing ship hulls from fiber glass, etc., are the "strong aspects" of foreign mine hunters. But it is impossible to say that all of this is some sort of revelation for us—here we also have our own achievements that have already been tested and realized in practice and we are prepared to compete in a worthy manner with our Western colleagues.

So, today, in the process of Russia's gradual integration into the world community and the development in the process of the principles of market relations, we must use to the maximum extent possible the experience and high scientific-technical potential that we have accumulated, develop them and return ourselves to the position of one of the world's leading maritime powers, including—on the naval weapons market. And on the whole, I think that it would be very beneficial to participate in similar exhibitions. And many of our foreign colleagues agreed with us in this, specifically, experts from Brazil, Great Britain, China, and a number of countries of the Arab

world who visited our exposition and manifested enormous interest in the models of Russian naval weapons and equipment that were demonstrated at it.

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Foreign Torpedoes

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in Russian No 5, May 1993 (Signed to press 6 Apr 93)
pp 69-75

[Article by Reserve Captain 1st Rank Yu. Nevskiy and Candidate of Military Sciences, Captain 3rd Rank N. Balakhontsev: "Ship-Launched Torpedoes of Foreign Countries' Navies"]

[Text] An assessment of the effectiveness of the employment of torpedo weapons during the course of the Second World War resulted in the fact that by the end of the 1940's military experts of the world's leading countries began to view them as one of the primary types of naval weapons. Therefore, in the first postwar years, intense work began on the improvement of the power systems of torpedoes and the introduction into them of autonomous maneuvering devices, proximity fuzes and homing devices. Indeed, already in the 1950's as a result of the development of missile and nuclear opinions, the opinion was formed that torpedoes were losing their former significance. This entailed a certain reduction of work on the development of new models. But the appearance of nuclear submarines in the navies and also the increased requirement for weapons to combat them placed the problem of improving torpedo weaponry among the priorities. Work began on the development of specialized antisubmarine torpedoes for which, besides speed and range, controllability in two planes, great depths and speed of movement along the vertical are the most important elements. If the running depth of anti-ship torpedoes fluctuates from two to 18 meters, it reaches 450-900 meters for antisubmarine torpedoes. Furthermore, the development of antisubmarine warfare aircraft and also antisubmarine missile and mine weapons required the development of light, small torpedoes for which the solution of the problem of running speed and range created even greater difficulties as a result of the limited size. As of today, the world's navies have a large number of various types of torpedoes which it is customary to classify as follows: according to delivery systems—aircraft, ships and those employed as the warheads of antisubmarine missiles and mines; according to function—for firing against surface or submarine targets; according to type of trajectory and control systems—maneuvering, wire-guided, homing; according to power plants—steam-gas, electric or solid-fuel; and, according to type of fuze—contact or proximity. Certain other signs, for example, type of warhead, type of mode of operation of power on sectors of the trajectory, etc., in accordance with which they can be classified are noted in the special literature.

In recent years, in foreign countries a great deal of attention is being paid to increasing the tactical-technical specifications of torpedo weapons to increase the effectiveness of their employment. So, the United States and Great Britain are conducting research of types of fuel that enter into a chemical reaction with water at high temperatures to increase the range of torpedoes. Aluminum, sodium and lithium are among them (for example, the temperature of the gases and steams of water during the combustion of lithium reaches 575°C).

Another promising direction of the development of torpedo weapons is associated with electric power plants. Silver-zinc batteries (a 36% solution of potassium hydroxide serves as the electrolyte) were widely used during the course of the development of electric torpedoes and which are used, for example, in the British Tigerfish torpedoes and nickel-cadmium (the French L3, E14, and E15 torpedoes). Batteries that use seawater as an electrolyte have been developed. Work to improve batteries continues. Among the new developments foreign experts designate as promising are silver-aluminum (a 15-40% solution of potassium hydroxide mixed with seawater serves as the electrolyte), lithium-thionylchloride (an electrolyte consisting of thionylchloride and lithium tetrachloraluminate is stored separately and, when activated, is fed into the battery under pressure) and silver-lithium (a solution of lithium hydroxide mixed with seawater is the electrolyte).

At the present time, foreign experts are devoting a great deal of attention in their research to methods of reducing the resistance of water to the movement of a torpedo to increase the torpedo's range and speed. Work in this sphere is being conducted along the following directions: lamination of the dome of the torpedo case and reduction of the surface cavitation due to boundary layer suction; changing the viscosity of the boundary layer by adding weak solutions of high-polymer (non "Newtonian") liquids; employment of various wipe-off polymer coatings of the torpedo case; development of artificially developed cavitation at super-high speeds (creation of a

gas layer due the developed mode of its own boundary layer cavitation and the artificial cavitation cavity around the torpedo case).

The development of homing systems with a large radius of reaction is considered to be the next important direction of the development of torpedo weaponry and the increase of its effectiveness. Active-passive type acoustic systems have received the greatest dissemination abroad. With low weight and dimensions, the homing device has a 600-1,400 meter operating range and an operating frequency of 30-60 kHz. A further increase of its operating radius is being carried out by shifting to lower frequencies and by employing various measures to reduce the noise of the operation of all torpedo mechanisms that not only increases the operating radius but significantly impedes detection of torpedoes by a target ship and drastically reduces the effectiveness of the employment of various target decoys. Noise reduction work is being conducted simultaneously along the line of reducing the noises of the torpedo's dome by improving its lines and cleaning up the machining of the surface and also by employing so-called torpedo case acoustic connectors in the form of various spacers between the torpedo's sections. However, with a significant increase of the range of torpedoes, the employment of homing devices cannot increase their effectiveness to the needed degree. Therefore, torpedoes, that were guided by wire (television-guided) in the initial and middle phases and guided to the target by homing devices in the final phase of the trajectory, began to enter the inventory at the beginning of the 1970's. At the present time, computers and microprocessors are included in torpedo guidance system equipment and homing heads and the distributed data processing principle is also utilized in them.

Large torpedoes (482, 533 and 550-mm) are the primary weaponry of foreign submarines and also of surface combatants and combatant craft of the navies of the FRG [Federal Republic of Germany], Italy and Sweden. They are primarily dual-purpose torpedoes that are first of all designed for utilization as antisubmarine torpedoes (Table 1).

Table 1. Primary Tactical-Technical Specifications of Large Torpedoes

Type of torpedo, country	Tactical-Technical Specifications								Target
	Caliber, mm	Length, meters	Total weight, kilograms	Warhead weight, kg	Running speed, knots	Range, kilometers	Running depth, meters	Guidance system	
Mk48, Mod 3, United States	533	6.2	1,580	267	50-55	46	900	Television-guided and homing, active-passive, acoustic	submarines, surface ships
Mk37, Mod 2, United States	482	4.0	766	150	24	8	370	Television-guided and homing, active-passive, acoustic	submarines

Table 1. Primary Tactical-Technical Specifications of Large Torpedoes (Continued)

Type of torpedo, country	Tactical-Technical Specifications								
	Caliber, mm	Length, meters	Total weight, kilograms	Warhead weight, kg	Running speed, knots	Range, kilometers	Running depth, meters	Guidance system	Target
Mk24, Mod 1, Tigerfish, Great Britain	533	6.46	1,550	134	35 and 24	13 and 29	5-450	Television-guided and homing, active-passive, acoustic	submarines, surface ships
Spearfish, Great Britain	533	6.0	1,850	300	55 and 70	40	900	Television-guided and homing, active-passive, acoustic	submarines, surface ships
Sil, FRG	533	6.08	1,370	260	35 and 23	13 and 28	12-18	Television-guided and homing, active-passive, acoustic	surface ships
SUT, FRG	533	6.4	1,414	250	35 and 23	12 and 28	300	Television-guided and homing, active-passive, acoustic	submarines, surface ships
L5 Mod 4, France	533	4.4	920	150	35	7	.	Homing, active-passive, acoustic	submarines
F17 Mod 2, France	533	5.0	1,300	250	40	18	600	Television-guided and homing, active-passive, acoustic	submarines, surface ships
E-15, France	550	6.0	1,350	300	25	12	up to 18	Homing, active-passive, acoustic	submarines, surface ships
A-184, Italy	533	6.0	1,265	500	36 and 24	10 and 25	.	Television-guided and homing, active-passive, acoustic	submarines, surface ships
Tp 617, Sweden	533	6.9	1,860	240	60	30	.	Television-guided and programmed	submarines, surface ships

The development of television-guided torpedoes with active-passive homing heads is a main direction of their development.

In the U.S. Navy, the Mk48 torpedo, the series production of which was begun in 1972, occupies the monopoly right in the arming of submarines. Design and layout solutions and the directions of development of foreign large torpedoes are being tracked based on its example with the greatest completeness. The torpedo's case has been divided into five sections: a homing head, warhead, guidance system, fuel tank, and power plant with propeller. A 500-horsepower six-cylinder two-stage piston engine that operates on a monopropellant fuel (a liquid mixture of fuel, an oxidizer, and water) is used on the Mod 1 as a power plant. Improvement of the torpedo has continued until the present time. A shift from a propeller to a hydro-jet power plant has already occurred on later production Mod 1 torpedoes. The torpedo's basic power

scheme has changed little but the piston machine now operates on a hydropump drive that feeds outside seawater into a special nozzle head that is located in its aft section. According to foreign data, this solution permitted an increase of the range and running depth and a reduction of the torpedo's propulsion noise as a result of which the level of interference of the low-frequency homing system decreased. Wire-guidance is provided to a distance of up to 18 kilometers. A great deal of attention is also being devoted to increasing the capabilities of the guidance systems and homing heads of torpedoes. So, the Mod 3 torpedo permits it to carry out tracking based upon its trajectory which is depicted on a screen and to change the direction of its movement if the initial data that was entered into the fire control system does not ensure that the torpedo will hit the target.

The foreign press notes that in 1985 the United States Navy issued an order for the production of the next

model of the torpedo, the Mk48 Mod 5. A new guidance system is being utilized in it, the homing head includes passive GAS [SONAR equipment] with a large resolution and more powerful active SONAR equipment with electronic scanning. The jamming resistance and reliability of the homing system have been increased. A digital data processing system permits it to distinguish decoys.

The fuel reserve has been increased (by reducing the length of the control section from 1.22 to 0.38 meters) which permitted the increase of range, speed (over 60 knots), and running depth. The Mk48 Mod 5 torpedo will be in the inventory before the beginning of the next century.

The Mk24 Mod 1 Tigerfish dual-purpose electric torpedo has been in the inventory of British Navy submarines since 1974. The requirement to develop a low-noise torpedo, even to the detriment of its speed qualities, was laid at the foundation of its design. Based upon the admiralty's concept of operations, that will permit the torpedo to approach to such a distance to the target when the latter will not have time to carry out evasion maneuvers. So, its speed is 20 knots lower than the Mk48 Mod 3 torpedo (35 versus 55 knots), but its noise level is 20 db lower. It is a dual-speed torpedo which permits it to conduct a target search for a prolonged period of time in the low-noise running mode (24 knots).

During the initial phase of the trajectory, guidance of the torpedo is carried out using wires through which the operator transmits commands to a control unit and in turn receives responding information that has been depicted on a control panel. Guidance can be continued even after the homing head has locked onto the target, and thanks to that we can adjust the operation of the self-guidance system when necessary. The torpedo is equipped with inertial contact and time proximity fuzes. At the present time, work is continuing on the modernization of the torpedo to improve its SSN [homing system] (the new model has received the designation Mod "2").

Since the beginning of the last decade in Great Britain, the new Spearfish torpedo has been developed to replace the Tigerfish but while taking into account the design solutions and experience of operation of its predecessor.

Changes have first of all affected the type of power plant. A gas turbine engine, that was designed at one time for the Mk48 Mod 0 torpedo, has been selected. The possibility is being studied of equipping it with an engine that operates on a closed cycle but with less weight and smaller dimensions than the existing torpedo. During tests that have been conducted, the torpedo attained

speeds of 70.5 knots and foreign experts think that it will be able to reach a speed of no less than 55 knots at a depth of 980 meters.

Serious changes were introduced into the guidance system's electronic circuit in which the distributed data processing principle is being utilized. A powerful computer with five times more memory than in the Stingray torpedo's computer has been installed which permits it to distinguish a decoy and to analyze the flow of information on the target that is arriving via the television circuit. In the remainder, the guidance system operates similarly to the existing Tigerfish torpedo. A substantial increase of the weight of the shaped high-explosive warhead to 300 kilograms is being noted.

The Sil and Zeeshlange torpedoes, that are intended for firing against surface and submarine targets, respectively, are in the naval forces inventory in the FRG. The Sil television-guided torpedo is equipped with a direct effect electric motor and a silver-zinc battery. The primary design solutions of the Sil and Zeeshlange are similar. The SUT and SST-4 (dual-purpose and for destruction of surface ships, respectively) second generation torpedoes have been developed based upon them. At the present time, the dual-purpose DM-2A3 torpedo with a new homing head and the DM-2A4 torpedo with a new power plant are being developed in the FRG.

The F-17 Mod 2 dual-purpose electric torpedo has been developed in France. In contrast to its predecessor, it has a new guidance system and an improved 116 horsepower power plant that ensures a speed of up to 40 knots (the Mod 1 torpedo has a speed of 35 knots). The homing system includes active and passive SONAR equipment which can operate both jointly and also separately. The torpedo is equipped with a warhead with 250 kilograms of HBX3 high explosives. Contact and proximity fuzes ensure its detonation when it strikes or at a distance of 2-5 meters from the target.

The Italian A184 television-guided torpedo is equipped with a dual-speed electric motor that operates on birotary propellers and uses silver zinc batteries. The homing head's computer defines data on the target in polar coordinates using SONAR equipment that operate in the passive or active modes or jointly. These data are transmitted to the torpedo weapon control system via a television circuit. The torpedo is equipped with contact and time fuzes that are located in the upper portion of the warhead and in the aft section of the warhead compartment, respectively.

Small antisubmarine torpedoes (324-, 330-, and 400-mm caliber) entered the U.S. Navy inventory for the first time at the beginning of the 1960's and have received broad dissemination in other foreign navies (Table 2).

Table 2. Primary Tactical-Technical Specifications of Small Torpedoes

Type of torpedo, country	Tactical-Technical Specifications							
	Caliber, mm	Length, meters	Total weight, kilograms	Weight of explosives, kg	Running speed, knots	Range, kilometers	Running depth, meters	Guidance system
Mk50, United States	324	2.8	400	45	55	.	600	Active-passive, acoustic
Mk46, Mod 5, United States	324	2.6	233	45	45	.	.	Active-passive, acoustic
Mk46, Mod 0.1, United States	324	2.67	258	40	45	11	450	Active-passive, acoustic
Stingray, Great Britain	324	2.6	267	45	45	7	750	Active-passive, acoustic
Murena, France	324	2.9	285	50	38 and 53	. and 9.5	1,000	Active-passive, acoustic
A-244/S, Italy	324	2.75	220	34	30	6	.	Active-passive, acoustic
TP 42, Sweden	400	2.44+ 0.18 (Television-guidance wire reel)	298	50	25 and .	10 and 20	.	Television-guided and homing, passive, acoustic

At the present time, the American Mk46 that belongs to the third generation is the most widespread small torpedo. It was developed in two variants—Mod 0 and Mod 1. The Mod 0 variant has been in the inventory since 1964. Movement is provided by a turbine engine that operates on a solid-fuel gas generator. Dropping it on a parachute from an aircraft at speeds of up to 740 kilometers per hour is being permitted in the aircraft variant. After the torpedo enters the water, the gas turbine power plant is placed into operation within 0.5 seconds by a special starter that operates from an independent battery. The passive homing system operates on the search phase of the trajectory and while closing with the target. When reliable contact with the target is obtained, control shifts to the active homing system. If the target is lost for some reason during tracking for any reason whatsoever, the torpedo conducts a repeat search. During the movement of the torpedo, solid-fuel combustion products clog the nozzle device and therefore it is considered to be a disposable torpedo.

The Mk46 Mod 1 torpedo entered the inventory in 1966 and it is distinguished from the Mod 0 by a power plant that consists of a piston engine and steam-gas generator that operates on a monopropellant liquid fuel. The primary advantage of this modification consists of the possibility for repeated employment. Development of the Mk46 Mod 5 torpedo, which was conducted within the NEARTIP Program, was completed by the end of the 1970's. The torpedo is equipped with improved SONAR equipment with enhanced jamming-resistance and a dual-speed propulsion plant.

The new fourth generation Mk50 torpedo, that was developed based upon the ALWT Program, entered the

inventory at the beginning of the 1990's. It has great speed and running depth, a more effective homing system and warhead, and also a new type of power plant. In contrast to preceding models, a closed cycle power plant, consisting of a turbine (with variable rotational speed) with a gear train, a steam generator and condenser and also water-jet propellers, was utilized in it. Foreign experts include less noise and independence of diving depth (the lack of exhaust) among the torpedo's advantages. A shaped charge warhead with an increased explosive charge is utilized in the torpedo.

Foreign experts consider the British Stingray torpedo to be one of the most advanced antisubmarine torpedoes, the development of which was completed in 1985.

It has a birotary eight-terminal 86 horsepower series motor that operates on water-jet propellers. A silver-magnesium, sea-water activated battery serves as the power source. The homing head consists of passive and active multibeam multi-frequency SONAR equipment with electronic scanning with an antenna array consisting of 31 hydrophones. Control of system operation is carried out using a reprogrammable computer that assigns the SONAR equipment's mode of operation (active, passive, or joint), the pulse frequency and a shift to another frequency depending on the hydrologic conditions, GPD [not found] systems operation, the nature of the target, and also the trajectory of the torpedo's movement. The torpedo is equipped with a shaped charge warhead with contact and electromagnetic fuzes.

In France, the new Murena small electric torpedo has been developed for increased effectiveness in combating future submarines.

The torpedo is designed for operations in a broad range of depths (from 40 to 1,000 meters). Control of the electric motor is carried out using an onboard computer. The duration of operation of the power plant at maximum speed is six minutes and in a dual-speed mode (38 knots during search)—12 minutes. The power plant enters the operating mode 3-4 seconds after the torpedo enters the water and the active-passive guidance system begins to operate in less than 30 seconds.

During search, guidance and attack, frequency-modulated and continuous pulses are radiated. When fired from a surface ship, the torpedo conducts a target search in the direction of firing and it conducts a circular search when it is employed from a helicopter or as a PLUR [antisubmarine guided missile] warhead after entry into the water. Data processing in the guidance system is conducted by three processors. Using them, a decoy can be distinguished, and the detection of quiet-moving and nearby targets is ensured. A comparison of speeds, direction of movement, target length, distance, and also signal strength based on 12 samples is carried out. When necessary, after that further, more detailed information processing is carried out, including analysis of the trajectory of movement of the target (up to two targets are tracked simultaneously).

The Murena torpedo's standard attack algorithm provides for a painstaking survey of the target on a parallel course using a side looking antenna and then a turn toward the target and attack of it in an optimal location at an angle that ensures the effectiveness of the shaped charge explosive.

The A-244/S domestically produced torpedo is the Italian Navy's primary small antisubmarine torpedo. It is equipped with an electric motor that obtains its power from a zinc-oxide battery. The new AG-80 guidance and homing system, that includes a microcomputer with reprogrammable software which significantly expanded the torpedo's capability for detection and guidance to the target in contrast to the Mod 0, has been employed in the latest Mod 1 torpedo modification. The torpedo's active-passive SONAR equipment radiates encoded frequency modulated signals, each of which contains pulses on three different frequencies. During reception, the guidance system carries out frequency filtering, a simultaneous analysis of the structure, Doppler frequency shift, form and duration of the blip. All of this ensures good capabilities for the differentiation of decoys and operation in conditions of reverberating interference in shallow water. According to foreign experts, the guidance system's improved specifications and the torpedo's reduced noise factor in contrast to the Mod 0 permits it to maintain contact with the target at a noise level of 5 db. Depending on the specific tactical situation, target search and torpedo maneuvering is carried out according to the installed program. Development of the improved A.290 torpedo with a speed of up to 50 knots has been conducted since 1981. It will have greater running depth and range and enhanced target detection capabilities in

contrast to the A-244/S torpedo. Its entry into the inventory is anticipated in 1993.

The TP 42 dual-purpose electric torpedo, that was specially designed for employment from surface ships and helicopters in the complex hydrological conditions of the Baltic Sea is in the inventory of the Swedish Navy. This is the only small torpedo that utilizes a passive acoustic guidance system and a television-guidance system. The delivery system operator guides the torpedo to the target until the moment its guidance system locks on. It is dropped from a helicopter without a braking parachute.

The improved model is designated the TP 427. It is equipped with an onboard microcomputer and improved data transmission and processing and homing systems. The guidance system is self-adapting, it selects the signal processing algorithm depending on the specific conditions and as a result has good countermeasures capabilities and ensures a high probability of hitting the target. The motor's rotation frequency is regulated via the television control circuit or from the onboard computer. If necessary, it can be employed without television guidance and, in that case, it is guided by the program stored in the computer.

The latest model TP 431 has been optimized for utilization against low-noise targets in shallow water. In contrast to preceding models, it has a longer range (30 km) and is equipped with a tri-speed electric motor and can be employed from submarines.

In Japan, the new G-RX-4 antisubmarine electric torpedo (previously designated the G-RX-3) with a silver-aluminum or silver-lithium battery, fiber optic television-guidance line and acoustic guidance system has been developed to replace the small domestically-produced (type "73") and American (Mk46) torpedoes that are in the inventory.

So, the foreign press notes that the navies of many developed maritime countries are devoting a great deal of attention to improving torpedo weapons that are in the inventory and to the development of new ones while considering the latest achievements of science and technology.

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CIS: REAR SERVICES, SUPPORT ISSUES

Lack of Support Faced by Military Personnel

Deputy Minister Mironov on Slow Legislative Progress

93UM0809A Moscow KOMMERSANT DAILY
in Russian 19 Aug 93 p 2

[Commentary by Col-Gen Valeriy Mironov, Deputy Defense Minister, reported by Ilya Bulavinov under the

rubric "The Ministry of Defense on Problems of the Army": "The Russian Military Have Asked for Protection"]

[Text] At a press conference yesterday in the Ministry of Defense Colonel-General Valeriy Mironov, Deputy Defense Minister, expressed dissatisfaction with progress in the implementation of legislation enacted last year and aimed at creating normal conditions for the military to perform their service duties and at raising the prestige of the military profession.

Russian politicians have of late become increasingly aware of the need for proper social protection for military personnel. Last week the Supreme Soviet conducted an all-Russian conference, "On Urgent Measures Toward the Implementation of Laws on Military Issues and on Social Protection for Servicemen and Their Families by State Agencies." These same problems were discussed at a government conference on the group of social issues, and on 12 August Minister of Defense Pavel Grachev sent encoded messages to the district and fleet staffs of the Russian military, in which he labeled as rumors reports being disseminated that benefits for servicemen are to be cut. Yesterday Russia's military department itself entered into the discussion of these matters. Despite all of these measures, however, Deputy Defense Minister Valeriy Mironov stated that further delay in the resolution of the problem could have the most terrible consequences, a fact confirmed by the recent tragedy on the island of Russkiy.

Observers regard the situation which has developed in the military as catastrophic. Officers do not receive their pay for several months in a row, only 70 percent of the benefits specified for servicemen under the law "On the Status of Servicemen" are being provided, sanatoria of the Ministry of Defense can presently accept only 5 percent of those needing treatment, and officers being discharged as a result of military reductions cannot find places for themselves in the civilian sector. The housing problem is of special concern to the military. At the present time only 18,000 of the 62,000 square meters of housing scheduled for release this year has been completed. The situation has been further exacerbated by the fact that more than 60,000 servicemen have been withdrawn from abroad to Russian territory in the past year.

Inadequate financing for the implementation of military laws is one of the main causes of the present situation. According to Ministry of Defense figures the Ministry of Finance owes the military something on the order of 2 trillion rubles, which is making it impossible to fulfill commitments made by the state to the military. Furthermore, more than 40 normatives specifying the procedure for fulfilling them must be enacted. The Ministry of Defense sent its proposals to the appropriate state agencies a long time ago but has yet to receive a response to any of them. At the same time steps taken by the parliament toward the implementation of its decision have been more for effect than anything else. This was

confirmed by the All-Russian Conference on Social Protection for Servicemen, which concluded actually without any results.

The outcome of this situation could be extremely bad. If in the immediate future the legislative and executive structures do not take decisive steps to normalize the situation in the military, in the opinion of military personnel, the officers could run out of patience, in which case even heroic efforts by the General Staff could probably not restrain the servicemen from unpredictable actions.

Benefits for the Military Under the Law "On the Status of Military Personnel"

- annual payment of compensation when a serviceman goes on leave, totalling six times the amount of the minimum pay for the servicemen and three times that amount for his wife and for each minor child (not being fulfilled);
- allocation of plots of land as private property (being partially fulfilled);
- authorization to travel free on all types of public transport (including urban and local transport) (being partially fulfilled);
- a lump-sum payment upon discharge of from 5 to 20 times the amount of pay and allowances, depending upon length of service (not being fulfilled);
- a serviceman may not be discharged from the military without providing him with housing according to current standards (not being fulfilled);
- servicemen required to pay no more than 50 percent of the cost of residential telephones (not being fulfilled).

Food Shortages, Supply Problems Reported

93UM0809B Moscow KRASNAYA ZVEZDA
in Russian 27 Aug 93 p 2

[Article by KRASNAYA ZVEZDA correspondent Vladimir Matyash: "The Nutrition Standard—Starvation Rations?: Russia's Army and Navy Are Not Insured Against Such a Turn of Events"]

[Text] "The military diet has become extremely meager," write military personnel of a military unit in the Ural Military District to the editors of KRASNAYA ZVEZDA. "For 2 months now we have had no vegetables to eat except potatoes, and we have had no meat for a month. Recently, they tried to feed us spoiled fish. It was declared unfit for consumption by a paramedic...."

The editors immediately informed the leadership of the Central Food Directorate of the Russian Federation's Ministry of Defense of this alarming report. The members of a commission of the TsPU [Central Food Directorate] working in the Ural Military District left for the unit commanded by Lt Col Aleksandr Smolin. The

investigation proved that the facts set forth in the letter were correct. Immediate steps were taken to improve the diet of the servicemen. A new refrigeration unit was allocated for the storage of meat and fish. The unit was assigned to a nearby training center for food. At the present time there are no complaints about the quality of the food, a fact confirmed by a telegram from the TsPU.

Has the problem been solved? Can we consider it over? Not at all, specialists with the Central Food Directorate of the Russian Federation's Ministry of Defense believe. It is a long way from over. The problem of feeding the army and navy is the cause of a lot of worry.

"It was extremely difficult providing the troops with food during the first 6 months," says Maj-Gen Aleksandr Artemov, deputy chief of the Central Food Directorate of the Russian Federation's Ministry of Defense. "The breakdown of existing management ties, the lack of advance financing and the chronic insolvency of the Ministry of Defense are negatively affecting the timeliness of food deliveries to the army and navy, particularly to the Far North, Far East and Transbaykal regions. That part of the decree passed by the Russian Federation's government on 27 August 1992, 'On Deliveries of Food and Goods for State Needs,' pertaining to the allocation of the funds needed by the Ministry of Defense to pay in advance for food is not being fulfilled by Russia's Ministry of Finance. This has resulted in the refusal by a number of suppliers to unload products already procured and accepted by military agents under contract. They prefer to sell them to commercial structures. The Armavir Meat Combine shorted the Ministry of Defense by 1,465 tons of canned meat products just during the first 6 months of this year; the Kurgan Meat Combine, by another 3,145 tons. The army and navy also did not receive a considerable quantity of fish, sugar, oil and other products."

The dictate of the producers in the market situation is not just apparent; it is also very unhealthy. And it is frequently impossible to find redress against the monopolists. A few days ago, for example, a document arrived from V. Lebedkov, general director of a dairy combine, addressed to Army Gen P. Grachev, Minister of Defense of the Russian Federation. It could only be called an ultimatum: "In the present situation the combine cannot deliver the remaining 160 tons of butter to your ministry without advance payment of between 600 and 700 million rubles, since the Republic of Bashkortostan is not in a position to extend credit to the Ministry of Defense.... The combine will be forced to reject an agreement for butter deliveries for 1994."

It should be acknowledged, by the way, that the suppliers of food to the army and navy have their own problems, including financial problems. They have to settle up with workers, kolkhoz workers and farmers. And it cannot be denied that the military department owes 55 billion rubles to the food suppliers. The armed forces are not a commercial structure capable of somehow twisting and

turning their way out, of selling something to liquidate their debts. Where is the money to come from?

This question should obviously be addressed to those in charge of the state budget, who also owe an enormous amount to the Russian Federation's Ministry of Defense. Addressed to them with a reminder that although units of the Russian armed forces have "gone aground" and sit down to an almost empty table, they are nonetheless engaged in intense combat training and working for the defense of the fatherland. They still need something to eat, though.... Or can there be other opinions on this matter?

Food supply prospects also look bleak. This can be judged, as Maj Gen Artemov pointed out, among other things, from the situation which had developed at the beginning of large-scale procurement of potatoes and other vegetables. The matter of paying for and transporting them has still not been worked out. Days and weeks are spent on coordinating and working out mutually acceptable settlements with the producers, the suppliers and transportation agencies. Nature does not wait, and if these problems are not resolved by the onset of cold weather, servicemen in the Far North, the Far East, Siberia and the Transbaykal will be left holding the bag, as they say. The end of the navigation season in northern waters will make any belated efforts useless.

Miners armed with picks and wearing helmets can take to the squares, make demands and threats in a struggle for their social rights and guarantees. Officers and enlisted men will not do that, of course. Taking up semiautomatic rifles and occupying their stations in combat vehicles and at the battle stations on ships, they are doing their job: standing alert duty, going on long naval cruises, assuming guard duty.... Are there those in the nation who want to make starvation rations the nutritional standard for servicemen and see how the army and navy does all that it does on an empty stomach?

General Lebed Notes Lack of Social Provision for Servicemen

93UM0809C Moscow PRAVDA in Russian 24 Aug 93
pp 1-2

[Interview with Gen Aleksandr Ivanovich Lebed by Aleksandr Chernyak: "Aleksandr Lebed: 'Until There Is a State, There Will Be No Army'"]

[Text] Gen A. Lebed climbed the ladder from soldier to army commander, not bypassing a single rung on the way. He fought in Afghanistan. It was he who succeeded in restoring peace, albeit it a fragile one, in Moldova and the Dniester region.?

[Chernyak] Aleksandr Ivanovich, how are relations with local authorities developing?

[Lebed] I would describe the situation thusly: Things are only outwardly tranquil. A year has gone by since peace was established, but nonetheless one senses a profound inner tension.

[Chernyak] What is causing that tension?

[Lebed] In the past year practically no legal basis has been laid beneath the armistice. Nothing has been done to stabilize the situation and create guarantees of peace. Positions remain the same—obtuse, to put it mildly. Moldova claims it as theirs; the Dniester region maintains it is theirs. I consider our relations with both sides to be satisfactory. They are smooth, and there are no particular conflicts. I try irreproachably to carry out the role I have assumed as peacemaker, diplomat and neutral party. I have requested some sort of diplomatic backup, because I have to be a commander, an ambassador, an adviser, envoy, and a military attache as well. That request has now been met, to be sure. Though, I have had to meet with representatives of the UN and the CSCE, military and civilian, and without any precise instructions. I do not have to digest anything, but I do, of course, have to define the outline, the overall line. Perhaps there have been mistakes, but the ship did not go onto any reefs, at any rate.

[Chernyak] On the other hand, it is nice to have complete independence. You do not have to look over your shoulder, and you can make your own decisions and answer for them.

[Lebed] It would still be desirable for there to be some interaction with state structures. Although, based on my view of the past, the authorities in Moscow themselves do not know which direction to take or what to do.

[Chernyak] In your opinion, what is the condition of Moldova's economy today?

[Lebed] Sad condition. Around 90 percent of the enterprises are oriented toward Russia; the other 10 percent toward Ukraine, whose economy is also coming apart at the seams. And the situation in Russia is far from splendid. Moldova's enterprises are not receiving raw materials and are operating 2 or 3 days a week. The people are receiving crumbs. They are not just on the brink of poverty; they are actually living an impoverished existence.

[Chernyak] And which side are the common people on?

[Lebed] They are very, very friendly toward the military. The same as they were toward the Soviet Army. On 9 May we celebrated Victory Day on a grand scale in Tiraspol. Companies and battalions marched through the city. A regiment marched through. This produced tumultuous enthusiasm. The people saw an army not poorly uniformed or equipped. In short, one which was prepared to protect them.

[Chernyak] You use such glowing terms, Aleksandr Ivanovich. To my knowledge, the Russian Army today is on the verge of disintegrating. The equipment is

becoming obsolete, many aircraft have used up their engine life, there is a shortage of kerosene, and the pilots are losing their skills. Half of the tanks have been cut up, and the rest are growing obsolete before our eyes. The companies have 30-40 men, and there is a manning shortage throughout. Only 51 percent of the needed soldiers are being inducted today, and more than 20,000 draft-age youth have evaded the draft. The messing situation for the soldiers is bad, to put it mildly. Many on the island of Russkiy, you will recall, suffered from malnutrition. So the picture is a long way from what you describe....

[Lebed] I am not describing the Russian Army as a whole. I am talking only about the formation which I command. And I stand behind every word I have said.

With respect to the Russian Army as a whole, you are right. Little is left of the invincible and legendary army that was. I have spoken publicly of this, and for this kind of talk—although I would not want to engage in any sort of conjectures—in May the minister of defense summoned me and suggested that I enroll at the General Staff Academy. I refused because I am accustomed to seeing things through to the end, not pulling out when halfway there. And this past year of peace brought no ray of hope, no advance; not even a small step took shape.

I repeat, I have said publicly and continue to do so: No reforms are occurring in the Russian Army. None are underway, and there can be none. The minister of defense took exception, saying that I am a long way off, that I cannot see anything from there, but that here in Russia everything is proceeding the way it should. I have no reason not to believe the minister of defense, but I do have to believe my own eyes. I have the impression that the minister is passing off what is desired as the reality. And the reason for this is fairly clear. Having taken on the job of building a Russian army, we have been erecting a building without a plan.

[Chernyak] And no foundation....

[Lebed] And only a henhouse or a barn can be built without a foundation. A good breeze would topple this structure. A serious job has to be planned in a serious manner. Planning in which it is clear what must be done first, second, third....

Russia's minister of defense declared more than once in the past: "We need to set up an organizing committee of up to 400 people, approximately one third of whom should be military. In addition, it should include sociologists, political scientists and economists. This committee will provide the concept for building Russia's armed forces."

Such a committee was not set up. Nor is there a concept. At any rate I am not aware of anything like it, and I am not the most insignificant person in the army. The package of laws which exists is not a bad one. The documents suffer from our common malady, though: We have the laws, but the preconditions and the system for

implementing them do not exist. They are written up but remain just scraps of paper.

Since there is no concept, everything just goes along in its own way. Added to this is the fact that the people's deputies themselves have contributed to the army's disintegration. They first adopted the decision not to draft students, then the children of farmers, then the sons of herdsmen.

[Chernyak] Many entrepreneurs buy their way out of sending their offspring into the army....

[Lebed] As a result we have arrived at the absurd situation in which we have a population of 150 million, but there is no one to serve in the army. We cannot recruit the 1.5-2 million needed.

The next factor is the fact that the conversion is being executed in a stupid way—I am not afraid to use that word. The Americans and Germans have increased their arms exports to the same extent that we have curtailed ours. And our weapons were in demand. We could have sold them and earned money. Many VPK [military-industrial complex] enterprises have begun turning out teakettles, pots and pans. One thing was destroyed without creating the preconditions for something else. And outstanding minds were assembled in the VPK's KB [design offices], after all. Here is an example. Personnel in one of the design offices saw a Japanese sewing machine which can perform 96 operations. They started thinking: Just how many operations would it be possible to perform on a sewing machine. They counted 144. They asked themselves whether they could produce such a machine. They created it but were unable to find an enterprise willing to place it into production. People are leaving the design offices even now. I say again: These are bright minds. It will be ever so difficult to assemble their kind again.

The system of replacing obsolete equipment set up in the military over the decades has been disrupted. We are still hanging on, but we could fall hopelessly behind in this area. And an immense and extremely rich nation would be reduced to having only two functions: providing the more highly developed countries with cheap labor and raw materials, and becoming a dumping ground for all kinds of junk.

[Chernyak] Incidentally, this process which, as one well-known figure liked to put it, broke up the USSR, has already begun....

[Lebed] It is underway. We have ceased to respect ourselves, and we let everyone give us advice.

Russia's rebirth will begin when we begin to respect ourselves. Yes, Russia has been weakened today, and we have done a lot of foolish things. We are sick, but we are still a power! I propose that we collect all of the advisers, take roll of them by name, put them into a vehicle or onto a boat and send them as far away as possible. Then

we can start to live with our brains. Aleksandr III stated back then: "Russia has no friends." Everyone is prepared only to rob and drain it.

Only near-sighted politicians could hope that someone will feed us or give us money. No one is going to pull us out of the muck in which we are sitting except ourselves. That is as clear as two times two makes four.

But I have digressed somewhat. The army does not have enough personnel, and without personnel the equipment is lifeless. To make matters worse, our equipment is becoming obsolete.

There is more. I have already mentioned the fact that more than just a single division is being withdrawn from foreign parts, near and far. Troops are removed from one location and placed into a new one. They are in a limited state of battle readiness at best. In most cases they are not combat-ready at all and will not be for 3-4 years, until they get set up. Our army is presently in a lamentable state, and this is not just my opinion. Most disturbing is the fact that nothing is being done at the top to revitalize it.

[Chernyak] Just talk and more talk....

[Lebed] Promises pour forth as though from the horn of plenty. They promise money, but none is forthcoming. The principle becoming increasingly widespread is that "Even a fool can build something with money. You try it without money." And people do try. They haul off everything not tied down: bricks, boards....

The army is the keystone of a state. This is the way it has been and the way it will be. Did those mojahedin act up when there was a Soviet Union? They knew that only a grease spot would be left of them, should they try to violate the border.

[Chernyak] Aleksandr Ivanovich, why, in your opinion, did a unified CIS army not work out? It is not a bad idea, after all. But even Marshal Shaposhnikov, commander of the CIS Joint Armed Forces, ran off, forgetting the briefcase with the nuclear button.

[Lebed] What has occurred could be illustrated like this: There was a Hercules. He fell ill. Instead of curing him, they cut him up into parts. Someone got a leg, someone an arm.... Now they have only a piece of meat left and are trying to revive it. Nothing can come of this. Take Moldova's army. It is not worth a brass farthing. It has none of what is required to be a real army. Even the more powerful Ukraine cannot maintain a real army. In short, all of these national armies will cease to constitute a real military force in the immediate foreseeable future, no matter how hard they try. The preconditions do not exist. In short, nothing has come of the CIS endeavors. When we add to this the fact that a marshal of aviation has assumed command of the ground troops, clearly nothing could have come of it.

[Chernyak] In my view, that of a civilian, the army has yet another thorn in its side today: lack of social protection for the personnel. Yuriy Vladimirovich Skokov is trying to do something about that. He established the Garant social protection fund for servicemen. Although this was a needed step, it will not solve the problem. A state program is needed. A soldier must know that when he has served out his term and is demobilized, he will have help with employment or training. An officer must know that when he has served out his term, he will receive a pension and will have housing. At least it was this way in the past....

[Lebed] Yes, that is the way it was. But in order to have that, we must have a state. Why do peoples unit to become a state? In order to have security. These are ordinarily volunteer formations, although there are other cases. At any rate, a state is a power. The fund will not solve the problem, of course. I am in no way belittling its role. I would go even further and say that it is performing an important and noble job, and we should be very grateful to Yuriy Vladimirovich Skokov. If we call a spade a spade, however, this is like a patch on a pair of trousers. No matter how much the fund does—and I repeat, it is doing a lot—it cannot cover the entire hole. You are right. We need a state program. In the USA, for example, which we have undertaken to emulate—although, in my opinion, we do not have to emulate anyone; Russia has always had its individuality—in the USA there are 17 state programs to provide protection for servicemen. Everything is spelled out precisely. That contract which our servicemen sign, however, is just an meaningless document. I repeat, we need a state program.

[Chernyak] And if the state were concerned, it would obviously study that fund with a view to developing it....

[Lebed] Incidentally, it could serve as the basis for a large state program. This is all the more essential because the instantaneous breakup of the former USSR left 25 million Russians in foreign countries. Take the army entrusted to me. People who served in it were discharged. Some remained to live there where they had served; others departed for their homeland or to some other place. In other words, human life proceeded normally. Now, all of a sudden, there are obstacles: customs, foreign passports, different citizenship. What are we to do? There are around 8,000 pensioners and 17,000 families of civilian specialists in our army's zone. These people would be glad to return to Russia, to Bryansk, Kursk or Tambov Gubernia, but no one is waiting for them there. They have no place to return to. They are stuck in Moldova or the Dniester region. Any self-respecting state should show concern for its citizens, not forget them.

[Chernyak] And we have abandoned them to the mercy of fate....

[Lebed] If we cannot return them, we should at least make the effort on the diplomatic and political level to see that they have a normal life. We are not doing so now. That is another reason why I rejected studying at the academy. I cannot abandon these people to the mercy of fate. I have to protect them. For me that is a matter of honor.

[Chernyak] Are you succeeding?

[Lebed] Yes. We have begun building housing for our officers in 11 cities. We are erecting apartment buildings in Saratov, Taganrog, Astrakhan, Krasnodar, Tula and other cities. Some of them will be ready for occupancy in the third or fourth quarter of this year; the rest next year.

I have committed myself to providing every officer with housing inside Russia and setting up a reliable logistical base for him and his family. A person should know that no matter what happens to him, he has a place he can come home to at any time.

[Chernyak] Aleksandr Ivanovich, it seem we have gotten around to commercial activities. You are apparently performing this construction with the proceeds from such activities....

[Lebed] No, I have managed to get some special-purpose financing from the state. My attitude toward commerce is that the army and commerce are absolutely incompatible. Either you are an officer or you are a businessman, that is all there is to it. The two concepts cannot be combined, otherwise it spells the end of any kind of combat readiness. One just has to be drawn into this process, and one is finished. You will not think of fuel as a means of enhancing combat readiness, for example, but about how to unload it at a good profit.

The army must be above any kind of politics and any kind of commerce. And it should be further removed from commerce than from politics. An intelligent structure has now been established: the Center for Material Resources and Economic Activities. We have a branch of that structure. All of the equipment designated for the civilian economy goes through it. This has relieved a headache for me and the officers. And then, there will be less abuse. We just have to see that the center does not simply spin its wheels.

I would also like to mention the following. This is the way it was in the Soviet Army and the way it is in the Russian Army: We are bound hand and foot by the system of itemized financing. There is a category for cigarettes, one for office supplies.... You need cigarettes, but there is no money. You cannot take it from the "office supplies" fund, even though you have achieved a big saving there. If you have entrusted me with a division, let us say, then trust me to handle the funds allocated to maintain it and not force me to play all kinds of games.

To conclude the conversation, I would like to say that it is time to stop talking and get down to business. The Russian Army should be a reliable bulwark of the Russian state.

INTERREGIONAL MILITARY ISSUES

Russian Decree on Abkhaz Ceasefire

935D0512 Moscow *FEDERATSIYA* in Russian No 91,
14 Aug 93 (signed to press 13 Aug 93) p 7

[Text of decree]

[Text]

Council of Ministers—Government of the Russian Federation

Decree No. 754 of 5 August 93, City of Moscow

Urgent Measures to Realize the Ceasefire Agreement in Abkhazia and Mechanism for Monitoring Its Observance of 27 July 93

In accordance with Directive No. 539-rp of the President of the Russian Federation of 29 July 93 and in order to provide for the fulfillment of the Ceasefire Agreement in Abkhazia and Mechanism for Monitoring Its Observance of 27 July 93, the Council of Ministers—Government of the Russian Federation decrees:

1. Approval of the proposed composition of the Russian portion of the United Commission on the Settlement in Abkhazia (hereinafter the United Commission);

2. That the Ministry of Defense of the Russian Federation and the State Committee of the Russian Federation on Matters of Civil Defense, States of Emergency and Elimination of the Consequences of Natural Disasters allocate the agreed number of subunits from the armed forces of the Russian Federation and the Civil Defense Troops of the Russian Federation for participation in the realization of the Ceasefire Agreement in Abkhazia and Mechanism for Monitoring Its Observance, with their subsequent possible inclusion in the peacekeeping forces of the United Nations.

3. That the Ministry of Foreign Affairs of the Russian Federation:

- conduct work at the United Nations connected with sending observers and peacekeeping forces to the conflict zone, and allocate the necessary number of translators for them at the request of the United Commission;

- coordinate with the relevant bodies of the Republic of Georgia the procedure for bringing in, removing and organizing the protection of special gear to support the communications of the Russian portion of the Unified Commission, as well as the procedure for the entry and exit of support personnel for that gear;

- continue negotiations to prepare a draft Agreement on a Full-Scale Political Settlement of the Conflict in Abkhazia.

- That the Federal Migration Service provide for the performance of organizational measures for the return to

their permanent places of habitation from the territory of Russia of refugees who have fled the conflict zone.

The expenses for the upkeep of the refugees in the reception and temporary accommodation areas and their transport on the territory of the Russian Federation are paid by the Federal Migration Service of Russia, within the limits of the appropriations allocated from the republic budget of the Russian Federation for assistance to refugees.

5. That the Ministry of Transport of the Russian Federation, Ministry of Railways of the Russian Federation and Ministry of Defense of the Russian Federation allocate the necessary amount of means of transport for the transport of refugees, the members of the Russian portion of the United Commission and freight for humanitarian aid at the request of the United Commission and at its direction.

6. That the Ministry of Fuel and Power of the Russian Federation assist in allocating to the United Commission the necessary quantity of fuel in accordance with its estimates, in order to support the movements of the temporary monitoring groups and peacekeeping forces, transport refugees and deliver freight for humanitarian aid.

7. That the head of the administration of the city of Sochi provide accommodations, working conditions and motor-vehicle transport for the Russian portion of the United Commission.

8. That the Federal Agency of Government Communications and Information of the President of the Russian Federation provide government communications for the leader of the Russian portion of the United Commission during his time in the city of Sochi.

9. Establishment of the fact that starting 29 July 93 the individuals who are part of the composition of the United Commission, its working bodies and temporary monitoring groups are under the conditions of an armed conflict.

That official salaries and salaries by military rank be doubled for officers, warrant officers and conscript servicemen who are part of the United Commission, its working bodies and temporary monitoring groups, as well as servicemen on temporary assignment.

That salaries at the scale rates of I—IV and monthly additional types of pay at the rates stipulated for conscript servicemen be established for servicemen completing military service under conscription.

That Paragraph 2 of the Council of Ministers—Government of the Russian Federation Decree No. 341 of 19 April 93, "Additional Benefits for Civilian Personnel of the Armed Forces of the Russian Federation," extend to employees of the ministries, agencies and other organizations of the Russian Federation that are part of the United Commission and its working bodies, as well as individuals on temporary assignment.

That the expenses for the upkeep and maintenance of employees of the Russian portion of the United Commission, its working bodies, temporary monitoring groups and other individuals engaged in the settlement of the conflict in Abkhazia be relegated to the reserve fund of the Government of the Russian Federation for eliminating the consequences of emergency situations.

10. The allocation of 600 million rubles in 1993 from the reserve fund of the Government of the Russian Federation for eliminating the consequences of emergency situations, for the assembly and delivery of humanitarian aid to the State Committee of the Russian Federation on Matters of Civil Defense, States of Emergency and Elimination of the Consequences of Natural Disasters.

That the expenses for the upkeep and maintenance of employees of the Russian portion of the United Commission, its working bodies, temporary monitoring groups and other individuals engaged in the settlement of the conflict in Abkhazia be relegated to the reserve fund of the Government of the Russian Federation for eliminating the consequences of emergency situations.

11. That the State Committee of the Russian Federation on Matters of Civil Defense, States of Emergency and Elimination of the Consequences of Natural Disasters provide coordination of the assembly and delivery of freight for humanitarian aid.

Chairman of the Council of Ministers—Government of the Russian Federation V. Chernomyrdin

UKRAINE

Morozov, Turkey's Ayaz Discuss Military Cooperation

93UM0776 Kiev NARODNA ARMIYA in Ukrainian
17 Jul 93 p 1

[Article by NARODNA ARMIYA correspondent Lieutenant-Colonel Mykola Horenko: "Future Collaboration of the Military Agencies of Ukraine and Turkey Will Be to the Benefit of International Relations—From the Joint Press Conference of Minister of Defense of Ukraine Colonel-General Kostyantyn Morozov and Minister of National Defense of the Republic of Turkey Nevzat Ayaz"]

[Text] Minister of National Defense of the Republic of Turkey Nevzat Ayaz made an official visit to Ukraine. A memorandum of mutual understanding was signed between the armed forces of Ukraine and Turkey.

A joint press conference for Ukrainian and foreign journalists was held on the results of the visit.

Minister of Defense of Ukraine Colonel-General Kostyantyn Morozov, opening the press conference, stated in particular that "This is the first visit to Ukraine of the minister of defense of the military agency of the Turkish

Republic—a nation with which we have a common maritime border. Our nations, with the Black Sea in common, bear responsibility for stability in that region."

Calling the visit "quite extensive" and informing those present that Mr. Nevzat Ayaz had had meetings with the President of Ukraine, the minister of defense, people's deputies from the Commission on Issues of Defense and State Security and at the Ministry of Machine Building, the Military-Industrial Complex and Conversion, Kostyantyn Morozov noted that "a host of issues that are of mutual interest were discussed."

Colonel-General K. Morozov regarded the memorandum of mutual understanding that was signed between the MO [Ministry of Defense] of Ukraine and the Ministry of National Defense of Turkey as a document that "has laid out the general directions and intentions of the two ministries to continue the joint work that we are conducting to improve provisions and prepare agreements between the ministries of defense on collaboration."

"The prospects for collaboration that are laid down by this draft," said the minister of defense of Ukraine, "encompass a whole circle of issues, and discuss in particular the exchange of delegations at various levels, working groups and information, as well as the exchange of experience in the development of the armed forces. Attention has been devoted to the training of military cadres and collaboration in the military-technical realm. Since our nations have a common maritime border, we have a vested interest in the development of relations, in particular between the naval forces of Ukraine and Turkey. An exchange of military attachés and representatives of the ministries of defense in Kiev and Ankara respectively will take place in the very near future..."

The minister of defense of Ukraine emphasized that Ukraine has quite good relations with neighboring states, and will try to strengthen them in the future. Contacts between the nations are being set up and consolidated, and now, during the numerous meetings in Kiev, we have begun a new stage in relations between the nations at the level of the ministers of defense of the armed forces of Ukraine and Turkey.

"History knows many instances where relations between our nations were undertaken as early as the beginning of the century," said Colonel-General K. Morozov. "They were renewed during the meeting of the presidents last year. I expect that the future collaboration of the military agencies of our countries and expansion of military contacts will be of benefit to international relations, and foster security and stability in the Black Sea region and a strengthening of overall peace and international security..."

It was also noted that "the work with the delegation from the military agency of Turkey was fruitful and the aims that were set were reached, while a series of others are being achieved..."

Nevzat Ayaz, in addressing the journalists, noted in particular that he was satisfied with the positive assessment that had been given by the President of Ukraine to the signing of the treaty of friendship and collaboration by the presidents of Ukraine and Turkey, as a result of which good relations are being developed between the two countries.

"I am grateful to the President and my colleague the minister of defense for my reception," said N. Ayaz. "We recognized that a number of topics exist in the mutual relations of Ukraine and Turkey. We also recognized that a solid foundation exists in Ukraine for the development of military-industrial technology. I want to emphasize that the high level of discipline in the Ukrainian Army made an impression on us."

N. Ayaz indicated that commercial and trade relations between Ukraine and Turkey are at an acceptable level so far.

"The decisions made in the military sphere, in our opinion, will foster the development of stability in the Black Sea region," said N. Ayaz, "and the development of good-neighbor relations between our nations..."

A memorandum on collaboration in the realm of the military-industrial complex was signed yesterday. The signing of treaties in this realm, as well as in the sphere of military collaboration, is planned.

"I will express the desire," said N. Ayaz, "that the memoranda that were signed bear results and fruit. I wish friendship and well-being to the Turkish and Ukrainian peoples."

Minister of National Defense of Turkey Nevzat Ayaz answered two questions for the newspaper NARODNA ARMIYA.

"Mr. Minister, in accordance with the memorandum, in what forms and directions could relations between the armies of Ukraine and Turkey be developed?"

"First of all, we will be developing collaboration in the realms of military education and the training of cadres. An agreement in the military-technical realm will also be signed. A procedure will be defined for training the specialists of both nations. Aside from that, we could give each other assistance in the creation of programs for the development of new structures for the armed forces. But the main thing for us is to establish lasting collaboration in the realm of military industry..."

"Mr. Minister, what is the reaction of the official leadership of Turkey to the attempts of the parliament of the Russian Federation to make the Ukrainian city of Sevastopol legally subordinate to Russia? But hypothetically assuming this been done, for example, would a strained situation of confrontation arise, including the armed forces in the immediate proximity of the Turkish border?"

"Turkey favors turning the Black Sea region into a zone of peace, friendship and collaboration. Turkey welcomes and supports those countries that act within the framework of existing international law. Turkey is now against, and will in the future be against, any attempts whatsoever to alter existing international borders. That includes in the Black Sea region as well, and especially with the use of force. We are against such incidents as the seizing of others' territories, as is happening, for example, on the part of Armenia, which has seized some of the land that belongs to Azerbaijan. We also favor the fastest possible halt to bloodshed in other regions, and that all conflicts be resolved by means of peaceful negotiations..."

The press conference was conducted in a businesslike and amicable atmosphere that demonstrated the attitude of good will held toward each other by the parties.

Western Views of Ukrainian Nuclear Disarmament Explored

93UM0778B Kiev NARODNA ARMIYA in Ukrainian
20 Jul 93 p 3

[Article by NARODNA ARMIYA correspondent Serhiy Zhurets under the rubric "In the Pages of the Western Press": "Have to Hurry Slowly—Or, on the Score of the Debates Surrounding Nuclear Arms in Ukraine"]

[Text] The topic of nuclear arms in Ukraine has been on the front pages of Western periodicals more and more of late. How do Western journalists regard the situation that has taken shape with the 176 nuclear missiles that remained on the territory of Ukraine after the collapse of the USSR?

One interesting detail should be emphasized, before giving examples that would provide an answer to that question. At the very beginning of the Ukrainian "nuclear campaign" in the publications that express mainly the official viewpoint of these or other state governments, the discussion was first and foremost about one thing—faster or fastest. Let Ukraine free itself of nuclear weapons now, they said, and we will resolve all the rest later. The pressure grew stronger, with the goal of the fastest possible attainment of that aim, both at the level of the representatives of nations, and the United States in particular, with the greatest vested interest in having to deal with one nuclear power and not four, and on the part of the mass media. The situation has been altered somewhat today. When the pressure on Ukraine did not have the expected quick results, Western specialists decided to seek out and analyze the fundamental reasons for the stance that the Ukrainian government has taken.

A professor in the political sciences department at the Massachusetts Institute of Technology points out in the article "The Dilemma of Security and Ethnic Conflict," which appeared in the pages of the British periodical SURVIVAL, that the end of the Cold War between the

superpowers has been accompanied by the outbreak of national, ethnic and religious conflicts.

But, the author asks, why has conflict flared up between Serbia and Croatia, for instance, and not between Russia and Ukraine? And he points out that the Serbs and Croats in Yugoslavia had the opportunity to restore their national independence and inviolability only within the context of primitive military capabilities. The presence of nuclear weapons in both Russia and Ukraine dampens the rivalry, and ethnic groups play less of a role on the military plane. If Ukraine were to eliminate its nuclear arsenal entirely, it would have to rely more and more on nationalism alone to strengthen the army, which could be manifested against Russia, relying only on the predominant motivation. The author points out that Russia will behave in a more restrained fashion in relation to Ukraine while some portion of the nuclear weapons remain on Ukrainian territory.

The future balance of forces between Ukraine and Russia is less favorable for good relations than today's, stresses professor of political sciences Barry Pausen. This is also the reason that the Ukrainians have been seeking security guarantees from the West instead of ratification of the Nuclear Non-Proliferation Treaty. The Ukrainians will drag out the "transition" phase to non-nuclear status in the absence of such guarantees. It would be difficult for the United States to reject the initiatives already made relative to arms control, but it is nonetheless more expedient to delay the deadlines for their realization. An acceleration of the process of nuclear disarmament in Ukraine (as well as Belarus and Kazakhstan) could have the opposite result, notes the author of the article "The Dilemma of Security and Ethnic Conflict." The West itself should seek to have Ukraine adhere to a firm timetable proportionate to the rejection of nuclear weapons in a time frame that corresponds to the deadlines that are stipulated in the START-I treaty. Some of the advantages of nuclear restraint are necessary, after all, to ensure stability during a period of difficult political and economic transformations in Russia and in Ukraine, stresses the Massachusetts political scientist.

Meanwhile, there are other ways out of the situation that has taken shape as well. Western specialists also understand this very well. Confirmation of that is the article by the U.S. coordinator on the NATO Committee on Eastern European Affairs, Lewis Strauss, published in the newspaper NEW YORK TIMES. He believes that only a set of comprehensive measures to guarantee the security of Ukraine could have a material impact on its stance relative to nuclear weapons. "One must understand that we cannot demand that Ukraine agree to the Russian terms if it is not given certain security guarantees," the author stresses.

It would be best to enlist Russia together with Ukraine in a common security structure with the West, either NATO itself or one analogous to it. It is essential, in the

opinion of the author, to settle the main disputed strategic issues in the relations between Russia and Ukraine. This could be done within the context of an agreement on a gradual entry into NATO, although the process of involving these countries could be all-encompassing and rapid. Lewis Strauss feels that the aspiration of the West to put off the entry of those countries into NATO for an indefinite period and the demands that Ukraine first resolve its problems with Russia using its own resources is mistaken. The situation remains unbalanced under those conditions. It would have been imprudent for Ukraine to carry out nuclear disarmament and resolve the problems with Russia on the basis of a compromise solution without entry into NATO as a constituent element of the overall process.

Ukraine has now proposed a solution with the variation of entry into NATO, noting that Russia would once again obtain the possibility of utilizing its former strategic expanse if both countries entered that structure. The author sums up by expressing the hope that the West will finally move to vigorous and constructive actions, and that a solution will be found.

That is possibly what will happen. But crude pressure on Ukraine is not a path that can bring results that would satisfy all of the parties concerned.

Ukrainian Missile Scientist on Nuclear Arms

93WC0101A London *THE GUARDIAN* in English
24 Jul 93 p 17

[Article by James Meek: "Fingers on the Buttons"]

[Text] Yakov Eisenberg has spent his life seeking the perfect parabola. More than three decades of patient cybernetics work, supervising other brilliant minds, honing the curves which would propel object A to point X, and from there on to point Y.

It wasn't all brainstorming with chalk, blackboard and computer. He would travel to the Baikonur launch site to be reminded that object A was often a Soviet intercontinental ballistic missile, that point X was up in space, and that in the most nightmarish outcome point Y was us, rendered into gas and glowing smithereens by the detonation of an equivalent 10 million tonnes of TNT.

Professor Eisenberg doesn't complain of nightmares. "Deep inside our souls all of us were absolutely sure that the things we made were never going to be used. Never," he said. "And in this sense it was just a very interesting game. In fact they are simply very interesting toys. You make a tank or a cannon, and your conscience could be tortured by the thought that someone might be killed with this weapon. But with our weapon—no one, never, because it would mean the end of life on Earth."

This particular game came to a sudden end for Eisenberg with the collapse of the Soviet Union in 1991. But the toys are still in place; 176 of them are located in Ukraine. So is Eisenberg. The professor is general director of a

plant-cum-institute called Hartron, in Ukraine's second city, Kharkov, one of only two places in the former Soviet Union which designed and produced guidance systems for ICBMs (the other is in Moscow).

Only 20 miles from the Russian border, Kharkov is a predominantly Russian-speaking industrial city. But the blue and yellow Ukrainian flag flies over its administrative buildings and it did not actively support the recent anti-nationalist strike by Donbass miners.

Eisenberg appears committed to Ukrainian independence—committed enough to be lobbying Kiev to give him a contract to build a dual key system for the nuclear missiles based in Ukraine, so that they cannot be launched by Russia without President Leonid Kravchuk's consent.

Eisenberg jabbed his thumb onto an imaginary button on the table as he made his point. "I have always thought and continue to think that in spite of the fact these missiles are Russian missiles, and the button is in Moscow, Ukraine as an independent state should have a second key. That means to launch a missile both Yeltsin and Kravchuk have to press the button.

"It would be very easy to make it so that they couldn't be launched at all. You could just cut a cable. But I'm not talking about that. I'm talking about a system that preserves the missiles as weapons that could be launched, only with two buttons."

He believes the mechanism should be created with Russia's consent, arguing that they would find out about it anyway. But he said he would be prepared to do the work even if Moscow said no. "This is a very hypothetical possibility. But I think if the Ukrainian government or parliament took such a decision, then we would do such work. Because, I say again, from the moral point of view I think that this is right."

This kind of talk is making brows furrow in Washington and other Western capitals, not to mention Moscow. They are worried that creating a dual key mechanism would be the first step to Ukraine having an independent launch capability. Did the professor think Hartron had the means to do that, if required?

"Why not? We are professionals. In principle we could make such a system as well. It would just take much longer, it would be hundreds of thousands of times more expensive."

Yakov Eisenberg is far removed from the stereotype of the messianic, or even the Soviet, scientist. He is more Richard Attenborough in Jurassic Park than Peter Sellers in Dr. Strangelove. He is a small, slightly nervous man with a disarming toothy grin and an earnest mission to explain, sprinkling his down-to-earth technical explanations with the Russian intellectual's love of cosmopolitan quotes.

He was born in Kharkov in 1934. His parents separated when he was very young; his mother was a shorthand

typist, his father a doctor. He has lived in the city all his life, apart from evacuation to Siberia for four years during the second world war. As a Jew, he lived under the shadow of annihilation long before a second sun rose over Los Alamos.

He graduated from secondary school with a gold medal, which according to the rules meant he could get straight into the university physics faculty without an entrance exam. But there were unwritten rules, too. For Jews.

"When I came to present my documents the clerk said something would go wrong and I wouldn't be able to pass the medical examination... Einstein said that when he had to face anti-Semitism he suddenly remembered he was a Jew." He went to Kharkov Polytechnic instead and studied radio engineering. His natural gifts must have shown through. Under the Soviet system graduates were posted to jobs by central decree, and he was despatched to the design bureau which, in 1959, began working on rocket guidance systems for the euphemistically named Ministry of General Machine Building. The name Hartron was the 1991 brainchild of a St. Petersburg consultancy.

For most of his career Eisenberg was head of the institute's theoretical department. Married with two grown-up children, he lived a comfortable life of relatively moderate privilege and restriction. He had a flat but no dacha. He could travel freely around the Soviet Union, except to border areas, but was forbidden to go abroad or speak to foreigners under any circumstances. He acquired a good car by Soviet standards, a Volga, but expert as he was at guiding hundreds of tons of metal into space, he never learned to drive.

There were moments of pride, with civilian rockets such as the Energiya launch vehicle, and with military ones. "The Americans published data about the accuracy of their rockets, our people immediately translated it, and we were immediately told about it so that we could work better," he says.

Like so many Soviet citizens he learned to keep his feelings in separate compartments—patriotism and pride in his work in one, cynicism about the USSR and consciousness of anti-semitism in another, and neither the less genuine for that.

"I'm in some ways amazed by people who say they did not understand everything in 1990. We did understand everything, but I'm going to quote not a Russian but an American proverb again—I like it: 'My country, right or wrong.' I was born here. It's my country."

In fact the country Professor Eisenberg was born in no longer exists. Jewish by passport, Russian by language and thought, Ukrainian by citizenship, he should be confused. He likes another word: adaptable. And he does speak Ukrainian, fluently.

Still, times are tough in independent Ukraine. No instructions have come to Hartron from Kiev to carry

out works, even preliminary studies, on work with nuclear missiles. Scientists have put a few ideas on paper but so far it has gone no further. And Hartron is desperate for money.

The institute, which employs 11,000 people in Kharkov and at another, smaller site in Zaporozhe, is struggling to diversify. It has started to upgrade safety systems at Ukraine's five nuclear power stations. It is producing control systems for pipelines, turbines and chemical plants, as well as plastic metrotokens in use in Kharkov and Tashkent. It is assembling Chinese TV sets and making components for a US computer firm, and is eager for more foreign partners. It isn't enough. Nor, says Eisenberg, is the money they receive from Ukraine's defence conversion fund. As for western funds intended to keep the former Soviet Union's top defence scientists on the straight and narrow, he has heard nothing.

More than a thousand of Hartron's best people have already left. Just before the latest round of wage increases a junior scientist was earning 40,000 karbovantsi a month, about four dollars at current exchange rates. Recently the institute's electricity supply was cut off because the bill hadn't been paid.

The professor is ambivalent about nuclear weapons. Hartron was never involved in building the warheads themselves; its control and guidance systems launched the rockets and guided them to the point where the bombs could be released to fall to earth "purely according to Newton's Laws".

He believes the weapons now in Ukraine will be removed within seven years, according to plan. At the same time he believes in the benefits of nuclear deterrence, quoting Bertrand Russell, Einstein and Margaret Thatcher to the same end.

Not far from Eisenberg's office is a little museum of Hartron achievements. There is a model of the Soviet space station, which it made control systems for; radio-controlled toy cars, another attempt at diversification; a picture of the SS18 missile in flight, the warheads clustered at the nose looking like garlic cloves around the stalk.

One exhibit counts the events of October 24, 1960, when a test missile blew up on the launch pad, killing 50 people—including Boris Konoplyev, Hartron's first chief designer. The date is kept free of launches to this day. For Eisenberg, who first saw one of "his" rockets fly only a few months later and who was directly responsible for steering cosmonauts safely into orbit, these nerve-racking missions were a more real concern than the prospect of nuclear war.

"When I said there might be human victims... I'm very happy that there are no human victims on my conscience. Very, very glad. It would be horrible to feel guilty for the death of a human being." And Professor Eisenberg knocked on the wooden table in front of him.

CAUCASIAN STATES

Kobaliya Blockades Poti

93UM0823A Moscow KRASNAYA ZVEZDA in Russian 4 Sep 93 p 2

[Article by Nail Gafutulin and Petr Karapetryan: "Blockade As a Means of Achieving Political Objectives—Zviad Gamsakhurdia Has Worthy Followers in Georgia"]

[Text] Poti is blockaded by armed detachments of Colonel Loti Kobaliya. The city's only remaining means of communication with the outside world is by sea. Ships are still coming here with cargo bound for Armenia, Azerbaijan, and Georgia, but the cargo cannot continue toward its destination on account of the blockade.

Col Loti Kobaliya is a worthy follower of his patron, Georgian ex-President Zviad Gamsakhurdia. It will be recalled that blockades were the latter's favorite means of achieving political aims. In the spring of 1991, Zviad, after accusing the union center once again of something bad, gave orders to close the republic's railroad stations to trains from Russia, and hundreds of "crusaders for Georgian independence" literally lay down on the railroad tracks. Zviad's followers basically got what they wanted: The republic's plants, factories, and stores wound up on short rations. Now Kobaliya is using a blockade to try to bring about the government's resignation.

Incidentally, about Gamsakhurdia. Valeriy Gogolashvili, chief of the Georgian Ministry of Internal Affairs press center, told KRASNAYA ZVEZDA that the ex-president had issued two statements. Gamsakhurdia asserts that railroad traffic in Western Georgia has been blocked by Mkhedrioni forces, not by his own followers. He also claims that one can cross the Tskhenis-Tskhali bridge, which links Mingrelia with Eastern Georgia, only onto the territory of Mingrelia, but not vice versa. The chief of the Georgian Ministry of Internal Affairs press center denied the assertions.

Survey Of Military Situation In South-West Azerbaijan

93UM0823B Moscow KRASNAYA ZVEZDA in Russian 4 Sep 93 p 3

[Article by Vladimir Urban: "Military Survey: Zangelan Arc: Fate of Azerbaijani Forces in Southwest Part of Republic Sealed"]

[Text] Our newspaper predicted the current situation in southwest Azerbaijan back in April (see the military survey "How the Kelbadzhar 'Boiler' Arose" in KRASNAYA ZVEZDA for April 10 of this year). The Zangelan arc—the territory in southwestern Azerbaijan from Fizuli to Zangelan and Kubatly, which remained under Azerbaijan's control, has now been easily cut off from the republic by blows from Karabakh in the direction of

the Iranian border. In short, the decision taken by the headquarters of the Nagorno-Karabakh Republic self-defense forces was only logical.

Why Was the Strike Against Fizuli Put Off?

After Azerbaijani forces were surrounded in Kelbadzhar Rayon, any real threat to the Lachin corridor and to all the Nagorno-Karabakh Republic's self-defense forces (Baku officially refers to them as the Armenian expeditionary corps) could be posed only by the Azerbaijani Republic units massed in Kubatly and Zangelan Rayons. Their total strength was about two infantry regiments, but by the standards of the Karabakh conflict, it was easy to turn them into a force group to launch an offensive in the direction of Lachin.

Needless to say, this group was unable to operate in "automatic mode" for any sustained period of time, and reinforcements from "continental Azerbaijan" were being moved up only through frontline Fizuli and Dzhebrail. If we look at the map, it immediately becomes clear that in taking these cities, the Karabakh forces were able to accomplish a strategic objective—to surround the enemy in Zangelan and Kubatly Rayons. And, consequently, to instantaneously secure the Lachin corridor from the south.

But no such attempts were made in either May or early summer. Why? Experts believe there is but one reason. The committee and headquarters of the Nagorno-Karabakh Republic's self-defense forces have always had to look over their shoulder at Agdam (Stepanakert has labeled it a "nest of aggressors"), where large Azerbaijani combat forces were concentrated in a fortified area with rear-service structures. It was from Agdam that several military operations had been launched against Karabakh. That city is the starting point of an important railroad that passes through the Nagorno-Karabakh Republic and leads to the Iranian border. The Azerbaijani Army could use it to link up with its Fizuli grouping.

Stepanakert's concept of creating "security zones" around the Nagorno-Karabakh Republic is well known. According to some information, Kelbadzhar District was deemed the first such zone, and Agdam is the second. And so it is no accident that Agdam was the target of Armenian detachments' June and July offensives.

"Security Zone" No. 3

"Security Zone" No. 3, as one may have guessed, is to consist of the four rayons of southwestern Azerbaijan,

which is to say the Zangelan arc. And indeed, the Karabakh forces' first powerful assault in August was directed against Fizuli. When the fate of that city was decided, followed by the capture of Dzhebrail, any further offensive by Nagorno-Karabakh Republic self-defense forces became senseless from a military standpoint. At the present time, southwest Azerbaijan poses no threat to the Karabakh Armenians. The Azerbaijani Republic Army is disorganized and no longer capable of reversing the tide of the war. Especially considering that a massive flight of the civilian population has begun from the southwestern rayons, and enterprises and institutions are no longer functioning. The surrounded troops have no backing and no logistical support.

What To Promise When Promises Cannot Be Kept.

The Karabakh forces' actions in southwestern Azerbaijan are more political than military, aimed at forcing Baku to agree to direct contacts with Stepanakert. Many analysts are now convinced that talks between the combatants are the surest way to solve the Karabakh problem.

But one cannot ignore Armenia's role here. Although Yerevan has repeatedly declared that Republic of Armenia armed forces on the territory of the "neighboring state" are not fighting, the single defensive space of Armenia and the Nagorno-Karabakh Republic is obvious. This is further evidenced by the 21 August appointment of Serzh Sarkisyan, chairman of the Karabakh Self-Defense Committee, to the post of Armenian defense minister. In other words, the man who has supervised combat operations against the "neighboring state."

Inside Azerbaijan itself, much depends on the subsequent development of the domestic political situation. Both past President Abulfaz Elchibey and current Prime Minister Surret Guseynov promised their fellow citizens a victorious outcome in the war. Only acting chief of state Geydar Aliyev has been more cautious on this question.

But presidential elections lie ahead. Consequently, Aliyev has to approach them with specific proposals on the Karabakh problem. Most voters are not delighted, to put it mildly, with the prospect of dialogue with the Karabakh Armenians. Needless to say, it is better to campaign for the presidency from "victorious military heights." However, this is hardly possible at present.

But, in any event, it will be necessary to sit down at the negotiating table.

ARMS TRADE

Possibilities for Russo-Chinese Military Cooperation

Chinese Interest in Russian Weapon Systems

93UM0815A Moscow KOMMERSANT DAILY
in Russian 12 Aug 93 p 4

[Article by Anastasiya Romashkevich: "China Intends to Modernize Its Army With Russian Assistance"]

[Text] Yesterday while on a visit to Russia Zhang Wannian, the Chief of General Staff of the Chinese People's Liberation Army held talks with First Deputy Minister of Defense Andrey Kokoshin and Chief of General Staff of the Russian Armed Forces Colonel General Mikhail Kolesnikov. Striving to consolidate its positions in the Asia-Pacific region, Moscow is laying its hopes on winning the Asian arms markets. While Russia must begin cooperation with a number of states in the region practically from zero, it can be said that Russo-Chinese ties have already been established in the military area.

On Tuesday, the first day of his visit, Zhang Wannian visited the Russian Air Force base in Kubinka and the Military Academy of the General Staff of the Russian Armed Forces. In addition, his itinerary includes an inspection of the Cosmonaut Training Center and a motorized rifle brigade of the Moscow Military District.

The topic of Wannian's talks yesterday with Kokoshin and Kolesnikov was expansion of military cooperation. The results of last year allow it to be said that this cooperation is a priority in Russo-Chinese trade. Thus, given a total volume of \$5.85 billion in bilateral trade in 1992, China purchased arms from Russia amounting to \$1.8 billion. Present hopes for expanding commercial cooperation are associated to a considerable degree with more active deliveries of arms to China.

Beijing's interest in Russian weapons is the result of plans for modernizing the Chinese Armed Forces. And for Russia, besides the financial benefit from such deals, this also provides a possibility for influencing the balance of forces in the region, in which the positions of Japan and the USA are strong. On the one hand, implementation of these plans should promote reinforcement of Russia's position in the Asian market, and on the other hand, it should strengthen the position of China, Japan's traditional rival in this region.

Interest in Russian weapons has been displayed not only by China but also by Malaysia, Indonesia, Thailand, Singapore and the Philippines. This is raising concerns in the USA, chiefly in view of a possible increase in competition in the Asian arms market.

In Washington's opinion, China's transformation into one of the leading military powers could become a consequence of Russo-Chinese military contacts. This in

turn would serve as a cause of political differences between Moscow and Washington.

Today Wannian arrives in St. Petersburg, after which he will visit Volgograd. KOMMERSANT DAILY will communicate the results of the visit on 18 August.

[Begin boxed material]

Russian arms of interest to China include:

arms already acquired by China—Su-27 fighter-bombers, military transport airplanes, surface-to-air class S-300 missiles, and T-62 tanks;

arms which may be acquired—MiG-31 fighters.

[End boxed material]

Grachev, Zhang Wannian Meet

93UM0815B Moscow NEZAVISIMAYA GAZETA
in Russian 18 Aug 93 p 2

[Article by I. Sh.: "Russian and Chinese Military Chiefs Meet: The Interests of Third Countries Will Not be Violated"]

[Text] "We have always viewed the Chinese People's Republic as a great power, as one of the leading states in the Far East and in the Asia-Pacific region as a whole, and we will continue to do so," declared Russian Defense Minister Army General Pavel Grachev yesterday at a meeting with Colonel General Zhang Wannian, chief of the General Staff of the Chinese Armed Forces, according to a report from the Postfaktum Agency.

Pavel Grachev emphasized that an interest in cooperation that was not directed at violating the interests of third countries had arisen between Russian and China. For this, in the words of the Russian Federation defense minister, it would be desirable to define the directions of cooperation with the goal of improving mutual contacts, which will provide a possibility for planning the work of Chinese and Russian military enterprises.

P. Grachev also communicated that during his forthcoming visit to China in November, the RF Ministry of Defense plans to offer for signature several documents in the area of military cooperation and contacts between the defense ministries of the two countries, and a plan of measures for development of military cooperation in 1994.

Zhang Wannian Visit, Naval Cooperation Detailed

93UM0815C Moscow KOMMERSANT DAILY
in Russian 18 Aug 93 p 4

[Article by Natalya Kalashnikova under the rubric "Military Cooperation Between Russia and China": "Military Department Heads Discuss Prospects for Naval Cooperation"]

[Text] In the words of the Chinese delegation's press attache, Chief of General Staff of the Chinese People's Liberation Army Zhang Wannian was satisfied with the results of his visit to Russia, which was concluded yesterday (its beginning was described in KOMMERSANT DAILY on 12 August). Having acquainted himself with points of interest in St. Petersburg, including its military historical museums, and with the organization of officer training in the Naval Academy imeni Admiral Kuznetsov, Mr Wannian left for Volgograd, and from there, for his home. While this was generally evaluated as a getting-acquainted visit, Russian experts feel that it may become the basis for continuation of bilateral cooperation in the military area, including the expansion of Russian arms exports to China.

The delegation from the General Staff of the Chinese People's Liberation Army was received in St. Petersburg by Colonel General Sergey Seleznev, troop commander of the Leningrad Military District, and by Rear Admiral Vladimir Grishanov, commander of the Leningrad Naval Base. Wider cooperation in the naval area was the main topic of the talks. In the opinion of experts, China's interest in Russian naval weapons is explained by Beijing's intentions for significantly modernizing its naval forces by outfitting them with modern warships, assault landing ships, anti-ship cruise missiles and air defense systems. The decision to modernize the navy was made by the Chinese military leadership immediately following the Persian Gulf War, which demonstrated the significant superiority of the high-tech weapons belonging to USA forces and their allies.

In addition to the indicated forms of armaments, China is also showing interest in Russian submarines as well as in S-300 surface-to-air missiles (analogous to the American Patriot system). Negotiations on possible purchase of Russian armaments, particularly naval, had been conducted earlier during a visit to Beijing by a Russian delegation headed by Boris Yeltsin in December of last year. They were continued in April in Moscow by Vice Admiral Zhang Lanzhong, commander of Chinese naval forces. According to data of the Oboroneksport [not further identified], the volume of deliveries of Russian arms and military equipment to China totaled \$1.8 billion in 1992, and will be increased this year. In Yeltsin's words, Russia does not consider China to be a potential opponent, and it is ready to sell it weapons and military equipment, "all the more so because what Russian military enterprises need today is orders." In expanding military cooperation with China, Russia is also considering the fact that interest in the Chinese military market has already been displayed by the USA, which has blocked entry of Russian armaments into the world arena in a number of cases.

Major Arms Fair to Open in Nizhny Novgorod in September

'Largest Military Exposition in Russian History'
93UM0813A Moscow KOMSOMOLSKAYA PRAVDA
in Russian 24 Aug 93 p 2

[Article by Leonid Zavarskiy and Sergey Gornov under the rubric "Preparations Underway for Arms Fair in

Nizhny Novgorod": "The Russian Defense Industry Has Prepared a Counteroffensive on the Volga"]

[Text] According to UN figures Russia sold weapons with a total value of around 1.9 billion dollars last year (compared with 6 billion in 1991), the main buyers of which were just the United Arab Emirates, Finland and China. The loss of former arms markets is making it necessary to take urgent steps. A briefing was held yesterday at the press center of the MID [Ministry of Foreign Affairs] on an arms exposition to be held in Nizhny Novgorod from 8 to 13 September. It will actually be the first international arms exposition in Russia. A total of 215 enterprises of the military-industrial complex and potential customers from 15 of the world's nations will take part in it.

In 1992 Russia exported 7 tanks (to Oman and Great Britain); 118 infantry combat vehicles (84 to Finland, 4 to Sierra Leone and 30 to Uzbekistan); 26 Su-27 fighters were delivered to China; 2 submarines were acquired by Iran and Finland; and Poland purchased 3 combat ships. The output of military products has dropped from 40 percent of total production volume in 1991 to 22.5 percent this year.

Gennadiy Yanpolskiy, deputy chairman of the committee which oversees the defense branches of Russian industry, reported at the briefing that 200 models of the latest military equipment and weapons will be on display at the exposition. They will include, among other things, MiG-29, MiG-31 and Su-27 fighters, the S-300 PMU1 antiaircraft missile system, T-72 and T-80 tanks, BMP-3 vehicles and other armaments. In addition, the exposition will include dual-purpose (with both civilian and military use) technologies and the products of converted enterprises: vessels, petroleum equipment, engines, household appliances and medical equipment. A seminar on conversion will be a part of the exposition, which will discuss technical and financial problems and possibilities for respecializing defense enterprises, as well as the attraction of foreign investments.

According to Vladimir Telkov, director for marketing of the Spetsvneshtekhnika state foreign economic company for arms exports and imports, foreign expositions do not allow us to demonstrate all of the capabilities of Russian weapons due to the high cost of transporting the equipment and participating in them. It is his opinion that Nizhny Novgorod has all the prerequisites for such showings of armaments: firing ranges and other ranges, for example, military airfields and bodies of water at which the combat equipment can be demonstrated in action. In his opinion, in addition to an interest in acquiring Russian military equipment, the foreign partners also have proposals for cooperation, joint development projects and the modernization of military equipment.

Maj-Gen Nikolay Zlenko, first deputy chief of the main Directorate of International Military Cooperation of Russia's Ministry of Defense, noted that despite its large

capability, Russia has for various reasons sharply curtailed its exports of weapons and lost its former positions in the world market. The USA and France have immediately filled the vacuum. The exposition in Nizhny Novgorod, which will possibly become a permanent event, will be good advertisement for the export possibilities of Russian weapons and help to regain those positions.

Variety of Weapon Systems Exported

93UM0813B Moscow KOMMERSANT DAILY
in Russian 21 Aug 93 p 2

[Article by Igor Chernyak: "Nizhny Novgorod Is Prepared to Outdo Abu Dhabi: This Exposition Will Be the Largest in the Nation's History"]

[Text] KOMMERSANT DAILY has learned that on 8 September the environs of Nizhny Novgorod will start to be shaken by numerous exploding shells and missiles. According to our information, there will be a firing of all the weapons in the Russian army's arsenal. Combat aircraft will take off, and tanks and BMT [infantry combat vehicles] are expected to take up positions. An assembly of military ships along the banks of the Volga is not ruled out.

There is no need to be afraid, however. This is not a coup attempt by Gen Makashov's supporters. It is just that on 8 September the largest fair-and-exhibition of products of the military-industrial complex in Russian history will open in Nizhny Novgorod. More than 200 kinds of weapons and military equipment will be displayed—many of them, in action. According to Gennadiy Yampolskiy, deputy chairman of Roskomoboronprom [Committee for the Russian Defense Industry], the best of what the Russian army has in its arsenal (more precisely, what is permitted to be shown) will be displayed at the fair. Among the exhibits will be the S-300 PMU1 anti-aircraft missile system, rival of the Patriot, the Msta-S artillery piece, the Tor air defense system, which has no counterparts in the world, the Smerch salvo-fire system, Tochka-U operational-tactical missiles, MIG-29, MIG-31 and SU-27 aircraft, T-72 and T-80U tanks, and BMP-3 vehicles, as well as dozens of kinds of firearms, submarines, combat ships and much more. Col Vladimir Telkov, representative of the Spetsvneshtekhnika GVK [not further identified], a great deal more will be on display in Nizhny Novgorod even than at the Abu Dhabi exposition in February.

Why was Nizhny Novgorod chosen? Vladimir Bessarab, general director of the Nizhegordskaya Yarmarka VAO [Military Joint-Stock Company?] explains that there were a number of factors. In the first place, there are enough firing and other ranges, airfields, bodies of water and tank training grounds to demonstrate the VPK [military-industrial complex] products in action. In the second place, around three quarters of the area's enterprises served defense needs for decades, and a huge scientific capability is concentrated there (it was with

good reason that Nizhny Novgorod was a "closed" city for a long time), and the defense workers now have an opportunity to show their fellow citizens the products of their creative efforts. In the third place, the experience of the Nizhny Novgorod workers had a lot to do with the selection. The current fair is their 25th, and there is therefore every basis for assuming that this fair will be a success. It is also a tribute to tradition. The first weapons fair in Russia was held in Nizhny in 1896.

There is one other important factor. Dozens of arms exhibitions are held in the world each year, but far from all Russian enterprises and KB [design offices] can afford to participate in them. It is prohibitively expensive even for state foreign trade organizations to transport the equipment abroad and rent space there (by way of comparison, rental costs range from 3,000 to 31,500 rubles per square meter in Nizhny Novgorod; 200-600 dollars abroad), and send hundreds of specialists and service personnel to the sites. The possibility of opening a permanent VPK exhibition in Russia is therefore being considered, possibly in Nizhny Novgorod. A decision on the matter may be made based on the outcome of the present exhibition.

According to the organizers, however, the most important thing for them is to display not military equipment but dual-purpose technologies, the output of VPK enterprises which have come into being as a result of conversion. It is planned to exhibit more than 1,300 of these items. They will include airfoil boats, amphibians, surface-effect vehicles, high-speed passenger motor vessels, oil-extraction equipment, medical equipment, kitchen appliances and other items. More than 215 of Russia's defense enterprises are expected to participate. The exhibits will cover an enclosed area of 1,200 square meters and an open area of 5,000.

The exhibition is called an international exhibition even though no foreign weapons will be on display in Nizhny. Representatives of large foreign firms and concerns from a couple of dozen countries will fly in for it, though. The names of these countries are not being advertised, to be sure, and the only thing known is that a high-level military delegation from China plans to attend.

The purpose of the exhibition, according to Gen Nikolay Zlenko, representative of the Russian Federation's Ministry of Defense, is to advertise the products of Russia's VPK, to help the producing enterprises find customers and to demonstrate achievements in the area of conversion. The general also reported that, following the '92 crash in the arms trade, Russia's military exports are now gradually increasing, and there are hopes that the growth will continue. The prices of most of the items (with the exception of small arms) are strictly classified, and the exhibition organizers and exhibitors, unlike those at Abu Dhabi, prefer not to disclose the total amounts of anticipated contracts. They give only one assurance: Possibilities that their products will end up in Russia's commercial structures or in "undesirable" countries are totally ruled out.

DEFENSE INDUSTRY

Privatization of Military-Industrial Complex

Presidential Edict Issued, Adviser Mostovoy Comments

93UM0820A Moscow KOMMERSANT in Russian
No 34, 23-29 Aug 93 p 22

[Article by Aleksandr Privalov and Natalya Kalinichenko: "Privatization of the Military-Industrial Complex: A Tale of Swords. Defense Industry Will Be Privatized. Not Right Away, But It Will Be"]

[Text] Presidential Edict No 1267, 19 August 1993, "On Features of Privatization and Additional Measures of State Regulation of the Activity of Enterprises of the Defense Sectors of Industry" was circulated confidentially last week. It's been a long time that edicts allowing sectors with the most powerful lobby to deviate from standard privatization procedures have not been news. Recall the series of edicts on privatization of fuel and energy sectors, or the agrarian sphere. However, this edict stands apart somewhat from this series: In the opinion of KOMMERSANT experts it is a textbook example of a compromise in behalf of which all interested sides sacrificed a very great deal. Whatever the case, the chances of investing vouchers in the military-industrial complex have noticeably risen.

It is patently obvious that the drafting of this decree was the next phase in the protracted struggle between those who support privatization and those who support the sector organization. Who won in this phase? This is not an altogether idle question. Whether normal civilians will be able to invest their vouchers and money into enterprises of the defense sectors depends on its answer.

When asked by us to comment on the edict, First Deputy Chairman of the State Committee for the Management of State Property Petr Mostovoy gave it an extremely high rating: "This edict puts an end to the protracted debate on which enterprises of defense industry should not be privatized. While it may not end it altogether, it does set it aside for a rather clear period of time: After 3 months the restrictions of this edict will lose their force. This document represents a real step forward in introducing an extremely conservative sector to market relations. This is a transition from an administrative, vertical system based on dictatorship to a system of relations of partnership, although perhaps not entirely equal. Distinct steps have been taken in the direction of commercializing enterprises of the defense sectors. I would compare the significance of this edict with the landmark edict on commercialization, which marked the beginning of economic reform." And so, the GKI [State Committee for the Management of State Property] feels that the time for innovation has come.

But "defense industry bureaucrats" are pleased as well. Privatization of defense industry has been halted. A list of enterprises that will not be subject to it at all was

approved. The Roskomoboronprom [Russian Federation Committee on the Defense Industry] obtained voting rights in relation to all phases of privatization regarding exactly what will be privatized (it had this right previously, but this decree somehow makes it more dependable), and two new levers by which to decelerate privatization (see below).

Such that the question as to who has won is not all that simple. In the opinion of KOMMERSANT experts, both opponents lost a little too much to celebrate victory. But judge for yourself.

The Basic Content of the Edict

The very first item suspends "transformation of state enterprises and organizations of the defense sectors of industry (as indicated in the attachment) into joint-stock companies and their privatization...until approval by the Council of Ministers of a list of enterprises and organizations not subject to privatization (among those indicated in the attachment), but not more than 3 months from the moment of enactment of this Edict." The Council of Ministers has to approve the list within 3 months time—at the request of the GKI, the Roskomoboronprom and the Ministry of Defense.

This same attachment, which is what made the edict confidential, lists 474 enterprises and organizations out of 1,700 that a representative of the Roskomoboronprom says are in defense sectors—that is, approximately 28 percent.

Mr Mostovoy told a KOMMERSANT correspondent that this list "is not final." It was drawn up on the basis of proposals of the Ministry of Defense, and it includes enterprises on the *borderline* between sections 2.1 and 2.2 of the State Privatization Program ("privatization prohibited" and "privatization to be decided by the government"). "This list indicates the special status, the special position held by enterprises in the structure of the military-industrial complex."

In Mostovoy's words, it took a significantly longer time to coordinate the list than the text of the edict itself. Several enterprises in relation to which privatization documents had been forwarded to the government and the deadline for their review has already passed were stricken from the initially drafted list. What this means formally is that the government has made a decision.

At the same time, defense industry representatives told a KOMMERSANT correspondent that even the last variant of the list contains enterprises in relation to which not only have decisions been made but also check auctions have been conducted. But this is not the biggest way the GKI lost: The edict does partially suspend the privatization process, after all. Just for 3 months? But this is enough to keep privatization from happening within the effective period of the vouchers. Anyway, it's not the 3 months that makes all of this fishy. As we will see below, signing a contract to fulfill a state order and preservation of state secrecy have been made mandatory

conditions of privatization. In the meantime, even the standard terms of such contracts have not yet been determined. The Roskomoboronprom was of course obligated to draw them up within a month, but edicts have all kinds of deadlines in them. And finally, if someone doesn't want to release an enterprise for conversion into a joint-stock company, he can delay signing of the contract. Cheap and effective.

The first item of the edict contains another fundamental premise: Within a month's time, the GKI, Roskomoboronprom, the Ministry of Finance, the Ministry of Economics and the Ministry of Justice must "draw up the procedure by which the state shall accept responsibility for obligations of state enterprises and organizations whose principal activity is financed by resources from the republic budget."

Placement of this assignment in an item discussing a certain list of enterprises should not mislead the reader: The discussion certainly concerns all defense enterprises in general. The government has essentially been ordered to at least put the financing of the Ministry of Defense in order, if not to increase it. Just this year, after all, in its role as a client it built up a debt to defense industry of almost 3 trillion rubles, even though everything had not yet been paid up for the previous year. The degree to which fulfillment of such an order is realistic appears to be extremely negligible to us: There's no money. In the opinion of observers it is very possible that the state will assume responsibility for obligations only of those enterprises which are not to be denationalized. In any case, referring to reworking the list of enterprises in relation to which privatization will be prohibited, Mr Mostovoy directly associated the final form of the list with the scale of the financial resources found by the state.

As a consequence the strategic outcome is predestined: Privatization of the overwhelming majority of defense enterprises will be simply unavoidable. Under today's circumstances this is the sole means of reducing the financial burden upon the state in supporting the unimaginably huge production apparatus of the military-industrial complex.

The second item of the edict is also essentially directed at this objective. In it, the Roskomoboronprom and the GKI are ordered to work together with the Ministry of Finance and Ministry of Economics to draft, within 3 months' time, "a proposal for establishing financial institutes and the procedure for utilizing dividends from federally-owned shares of joint-stock companies created as a result of transformation of state enterprises and organizations of the defense sectors of industry, foreseeing their use for specific financing of conversion measures, reequipment, reconstruction and expansion of productive capacities, implementation of environmental measures and maintenance of the social facilities of these enterprises and organizations."

The financial institutes referred to here are, in the words of Mr Mostovoy, primarily "investment funds maintaining open channels for the flow of earmarked assets appropriated by the state to specific enterprises."

The third item is yet another powerful blow against the concept of "popular privatization." According to it, if when defense industry enterprises undergo transformation into joint-stock companies the controlling interest is transferred to federal ownership, "the state's share of the authorized capital of the established joint-stock companies shall remain the same for a period of not less than 3 years." Until this time, documents have always said "not more than 3 years." One consolation—"the indicated period may be reviewed in the event of the adoption of new legislative acts."

This also answers the question as to who will control these blocks of shares: At the request of the Roskomoboronprom, the GKI is permitted to "instruct the boards of directors of joint-stock companies created as a result of transformation of state enterprises of the defense sectors of industry to represent the state's interests in shareholders' meetings on the basis of the block of shares or part of the block of shares (not more than 20 percent) under federal ownership."

Mr Mostovoy recalled that this decision is in keeping with the law on enterprises: An owner has the right to delegate certain of its powers to the supreme administrative body of an enterprise. "And considering that the chief executive is an *ex-officio* member of the board of directors (Edict No 721 even gives him two votes there), this procedure will not cause any harm, all the more so because the block is strictly limited to 20 percent."

There is no debate that this item is a fabulous gift to the directors of enterprises undergoing transformation into joint-stock companies. And also to the Roskomoboronprom, which now has an important instrument in its hands—the right of "representation" in the question as to whether this gift is to be bestowed upon a specific director or not.

Details Large and Small

Nor are defense enterprises that are not included in the attachment to the edict forgotten. If their conversion into joint-stock companies is recognized to be possible (with the permission of the government or the GKI), then "only persons possessing a qualification certificate issued according to a procedure established by the Council of Ministers may be appointed as general directors of joint-stock companies producing armament, military equipment and ammunition." This "procedure" does not as yet exist, but it soon will: The edict gives the Council of Ministers a month to "draw up and approve the Statute on Certification for the Right of Management of Enterprises and Organizations of the Defense Sectors of Industry, as well as the list of products in relation to which acquisition of a certificate permitting the bearer to direct their development and production shall be required."

Mr Mostovoy explained that the powers of directors with whom contracts had been signed at the moment of transformation into joint-stock companies will remain in force. The certificates being introduced pertain primarily to forthcoming personnel changes. "In order for a new director to be appointed to enterprises of this kind, he will have to possess a certificate, inasmuch as this activity is associated with supporting state interests."

The edict prohibits territorial agencies of the GKI from making decisions to privatize defense enterprises fulfilling state orders. The right to make such a decision remains with Moscow. In the words of Petr Mostovoy this in no way changes the existing decision making procedure, but "this item has psychologically pacified bureaucrats of defense industry."

But Item 11 is without question the most startling (and the most far-reaching) item of the edict. It establishes that "facilities information on which (including fund information and scientific, technical and production documents) comprises an object of state secrecy shall be exclusively under federal ownership and *not subject to privatization* (italics ours.—KOMMERSANT), and they shall be excluded from the property of enterprises of defense industry undergoing privatization. The right to use the indicated facilities shall be granted to enterprises only on the basis of the terms of contracts signed by them with the GKI with the consent of the Roskomoboronprom and the Ministry of Security." Reading further: "The signing of such contracts shall be a condition of adopting decisions regarding privatization of enterprises and organizations of the defense sectors of industry." It is entirely logical that the next item of the edict orders the Ministry of Security and the Roskomoboronprom to work jointly with the Ministry of Defense and other interested bodies to get this other list of information comprising state secrets to the enterprises and organizations of the Russian Federation within a month's time.

And so, an extremely significant share of state property is completely excluded from the privatization process—all facilities "information on which (including fund information and scientific, technical and production documents) comprises an object of state secrecy." According to specialists, enterprises in which the proportion of such "facilities" comes close to 100 percent of their property is not a rarity in defense industry. Moreover the new list of information comprising state secrets is being prepared especially for this case: Is there any way to keep it from getting longer?

Commenting on the edict, Petr Mostovoy said that what is evident here is "elements of compromise between state and entrepreneurial interests." An enterprise has the right to use scientific and technical documents paid for by the state by agreement. "If the agreement is dissolved, then whoever makes use of this information loses this right. Consequences governed by civil law follow from leakage of the information: The enterprise is obligated to pay materially as a minimum, while in certain cases criminal liability is incurred as well. But liquidation of a

joint-stock company that had been formed as a result of conversion of a state enterprise into a joint-stock company does not occur."

As we see it, if an agreement to keep state secrets may be considered to be a reasonable compromise, this cannot be said of exclusions from privatized property associated with secrecy. This is outright fleecing of potential investors in the military-industrial complex. The interests of the administration and collectives of enterprises are violated as well: For very many of them, privatization becomes an empty shell: The decisive share of their property remains with the state, and they are only able to use it by agreement. On the other hand things are easier for the Roskomoboronprom: Anything at any enterprise could be declared to be secret facilities, even a fence, and excluded from privatization.

As for the rest of the details, they are small in comparison to the above. The Roskomoboronprom has been ordered to draw up the format and procedure of issuing licenses for the development and production of armament, military equipment and ammunition within a month's time; in order to provide for quality control on the development and production of armament, military equipment, ammunition and special chemical products, the Russian Federation Ministry of Defense is permitted to create (maintain) any organizational and legal forms of its representation at the enterprises.

And So, Who Won?

It looks like the GKI did, after all. The sector supporters lost almost more than they gained. The main thing in the edict, after all, is that although there are some stipulations, it does clearly include defense sectors *in the general scheme of privatization*. In the past, an attempt could have been made to negotiate some fundamental deviations from it, but now this train has left the station. Approval of the list of facilities in relation to which privatization will be prohibited will necessarily make privatization a potential reality for enterprises that are not on the list, which do after all make up the majority. In the past, they all paid homage identically to sector organizations, but now the majority will pay homage less zealously. And even so, departures could be made from the list: There have been cases where defense enterprises known to be on List 2.1 of the State Program have been privatized!

As for all the rest that are not participating in the struggle at the top, the edict provides an unexpected gift. Now the sale of the shares of joint-stock companies formed out of defense industry enterprises will occur "exclusively at interregional specialized check auctions." All of this will of course hold true for only 3 months, and only if the term of the vouchers is lengthened.

Petr Mostovoy considers this to be an extremely important item. In his opinion it provides one solution to the problem of "how to preserve the all-Russian significance of defense industry after privatization." There are enterprises in defense industry that are strongly tied to each

other in terms of production processes but which are scattered over the entire territory of the country. And the workers of some of them would want to purchase shares not only of their own enterprises but also of associated enterprises with which they must constantly deal. Making check auctions interregional will help them achieve this desire. "I don't know if this is bad or good," said Mr Mostovoy, "but I think it is more likely a good thing, because they will now be able to acquire shares on an equal footing with other citizens."

On the whole, the edict appears to KOMMERSANT experts to be a useful document, mainly because it clearly places privatization of the military-industrial complex on the agenda. The problems mentioned above could be reconciled to a significant degree, if things go well for Chubays's department. Even Item 11 could noticeably lose its bitterness if the list of state secrets is drawn up in truly reasonable fashion.

Incidentally, this is not the last edict on privatizing defense industry. An edict on the procedure for applying restrictions imposed by the State Privatization Program was drafted in parallel with it. The GKI bases itself on the idea that some formal restrictions that will make it possible to do away with the procedure of facility-by-facility interdepartmental coordination could be established. In the words of Petr Mostovoy, this second edict has already been submitted to the government, and it will soon be adopted. As for the extent to which it is modified as it goes through channels, and as for the degree to which it will be fulfilled, we will see later on.

Privatization Proposal Refined

93UM0820B Moscow KOMMERSANT-DAILY
in Russian 28 Aug 93 p 2

[Article by Yelena Kotelnikova: "President Adjusts His Edicts"]

[Text] The president's desire to reinforce his social base in the face of a growing political struggle with the parliament has forced him to make adjustments in the tactics of the economic reforms, and particularly in the privatization of enterprises of the military-industrial complex. Evidence of this can be found in the edict made public yesterday "On Features of Privatization and Additional Measures of State Regulation of the Activity of Enterprises of the Defense Sectors of Industry," the official text of which was classified "For Official Use Only." Contrary to earlier documents signed by Boris Yeltsin, this edict suspends denationalization of enterprises of the military-industrial complex and gives the Russian Committee on the Defense Industry the leading position in developing and carrying out state policy regarding regulation of the activity of defense industry, regardless of the forms of ownership of the enterprises.

In the opinion of the leadership of the Russian Committee on the Defense Industry, up to this point the president's edicts stimulating privatization through vouchers had not accounted for the unique features of

defense industry, and in many ways the principles of denationalization within it were analogous to compulsory formation of joint-stock companies in, for example, light industry. However, in the words of Aleksandr Rodionov, deputy chairman of the Committee on the Defense Industry, in the absence of a federal ideology for reforming the military-industrial complex these decisions have led to the reverse effect—artificial blocking of the privatization of enterprises of the military-industrial complex on the part of "various bureaucrats."

In the opinion of a number of specialists the new document makes it possible to put the process of privatization in the military-industrial complex in order, and even accelerate it, inasmuch as it officially limits the circle of "specifically defense" enterprises not subject to denationalization. They represent approximately 25 percent of the total number of enterprises and organizations in the sector (474 enterprises out of 1,700). However, this list of enterprises is not yet final, and it must be refined and approved by the government over the course of the next 3 months. According to some information the list of enterprises not subject to privatization may be reduced by a factor of 2-3. Moreover the president deemed it necessary to make the government responsible for personnel policy regarding the directors of joint-stock companies producing armament, equipment and ammunition. The advantages enjoyed by the directors of enterprises of the military-industrial complex undergoing transformation into joint-stock companies will be widened simultaneously. According to the edict the boards of directors of joint-stock companies may, with the consent of the Committee on the Defense Industry, claim the powers of representing the state's interests at shareholders' meetings on the basis of the block of shares or part of the block of shares (not more than 20 percent) under federal ownership. In contrast to enterprises in other sectors of industry, privatization will be carried out in the military-industrial complex exclusively by regional privatization agencies, and the shares of the enterprises will be sold only at interregional check auctions. Information on them will be made public in a special bulletin that will be published by the Committee on the Defense Industry, jointly with the State Committee for the Management of State Property and the Russian Federal Property Fund. This provision, which was made official by the presidential edict, will allow the Committee for the Defense Industry to maintain control over enterprises undergoing privatization, and it will assist in the legal exchange of shares among associated enterprises by way of check auctions.

Despite the fact that the main provisions of the presidential edict put the process of privatizing enterprises of the military-industrial complex in order, attention should also be turned to the addition of provisions in the document directed at satisfying the financial claims of the sector's enterprises upon the Ministry of Defense, which built up a debt of 260 billion rubles to subcontractors since the beginning of the year. Within a month's time the State Committee for the Management of State

Property, the Committee for the Defense Industry, the Ministry of Finance, the Ministry of Economics and the Ministry of Justice have to develop the procedure by which the state is to assume responsibility over the obligations of state enterprises and organizations that are financed primarily by resources from the republic budget, which for practical purposes obligates the government to provide additional financial support to the Ministry of Defense.

The political nature of the new edict also manifests itself in the fact that since the budget has not yet been approved, the president obligated the Ministry of Economics and the Ministry of Finance to draw up measures

in the third quarter of 1993 to economically stimulate enterprises under all forms of ownership fulfilling defense-related state orders. Computations show that not less than 5 million persons are employed by these enterprises. This step reflects an attempt by the president to strengthen his influence within the tight circle of directors of the military-industrial complex and to neutralize the influence of parliament, which has been growing continually as provisions of the policy of financial stabilization have been implemented.

At the same time the edict also reflects a significant shift in the "defensive consciousness" of the leaders of the military-industrial complex who had taken part in

A Variant of Structural Reform of the Military-Industrial Complex (As Proposed by Presidential Adviser for Conversion Mikhail Maley)



Key:

1. Parliament
2. President
3. Government
4. Russian Federation Security Council Interdepartmental Commission on Scientific and Technical Problems of Defense Industry
5. Vice prime minister
6. Chairman of the Committee on the Defense Industry, member of the Presidium of the Council of Ministers
7. Departments
8. Atomic industry
9. Special chemistry
10. Machine building
11. Enterprise general designers
12. Defense industry enterprise chief executives
13. Trade unions
14. The press
15. Regional administrations
16. "Colleagues" in the USA and NATO

drafting the document. They already recognize that keeping their sector immune is no longer possible for the national economy, and they are selecting their tactics for reforming the structure of the military-industrial complex. In particular, the idea of raising the status of the Committee on the Defense Industry to that of a state committee is enjoying increasingly greater support in parliament and in the government. If this matter is resolved positively, the leader of the committee will automatically become a member of the Presidium of the Council of Ministers, which will allow him to actively defend the interests of the military-industrial complex during the economic reform.

Problems Encountered by Navy Radar Designer-Producer

93UM0810A Moscow KOMSOMOLSKAYA PRAVDA
in Russian 25 Aug 93 p 2

[Article by Leonid Krutakov: "Our Ships Have Long Ears"]

[Text] What do an escort vessel, a cruiser, an aircraft carrier and a destroyer of the Russian Navy have in common? They sail, or more accurately, they "chug." But another thing that brings them together is that the eyes and ears of the surface ships of all fleets of the former USSR were developed in the design office of the Salyut MPO [Naval Production Association]. What are the eyes and ears of warships? Radar. It was by this design office that all of the dishes mounted on their upper decks were made. In short, the design office of the Salyut MPO is a monopoly. But that "monster of the military-industrial complex" is now a thing of the past. Today its intellectual potential is diminishing in response to the blows of conversion.

The history of this design office follows the history of the country. Having its origins in 1943 as the design division of a plant producing "everything for the front, everything for victory," by the beginning of perestroika the design office of the Salyut MPO had transformed into the developer of modern world-class electronic information systems and radar stations. The very first radar it developed independently in 1951, the Gyuys-2, brought fame and a State Prize to Salyut. And after that, things began to move: Each subsequent Salyut development was significantly superior to what had come before, and not a single one of them ever ended up "gathering dust on a shelf." And the latest systems—Poyma-E, Fregat-MAE and Podberezovik-E—are now operational in the Russian Navy.

The Fregat—a radar station for small and midsize surface ships—is not only superior to Western models, but it even exceeds them in some things, while the going price is twice as low. The Podberezovik is distinguished by the presence of a solid-state transmitter, which makes it possible to reduce the station's working voltage from the kilovolt range down to just 24 W. The Poyma, the brain center of a modern warship, is a system that

processes information coming from radar stations, making it possible to determine and classify targets, calculate their coordinates and direction of travel, and distribute targets among different types of shipboard armament.

The developments of the Salyut design office may be referred to, without stretching the point at all, as the most "patriotic" types of armament, because they work only on the basis of parts made in this country. This consequence of the Iron Curtain, by the way, is now considered to be more of a shortcoming than a merit of Russian armament. While contact forms of weapons are intended for one-time use, the life of a radar station reaches up to a dozen years. Therefore in order to sell radar equipment abroad, we have to have an extensive network of technical maintenance bases. As an example many of the units of American, French and English stations are interchangeable.

"In terms of range, throughput and noise immunity, we are not inferior to the Americans, but when it comes to overall dimensions, we are significantly behind," said Valeriy Shlepnin, chief of the design office of the Salyut MPO. "But this does not mean that our designers are more stupid. As an example, we have the ability to develop a high-speed motor vehicle. We could, but given our roads and our financial status, who would need them? Consider the result of our design office developing a radar that is significantly superior to existing shipboard armament systems. This would be like attaching a laser sight to a musket.

"This is all quite true: You can't look at one type of armament apart from the general military concept. The Americans are betting on a carrier fleet, while we are putting our money on improving the methods of early detection of the adversary and on a preventive or retaliatory strike. It has always been the objective of Salyut to attain maximum effectiveness with minimum resources. That's why we have sacrificed size. The living comforts of seamen on a long cruise were somehow not accepted as a matter of concern, which is why we attempted to maximize the amount of armament carried by a ship.

"We couldn't allow ourselves to carry out a technical revolution," Valeriy Vladimirovich continued. "A radar station or a data processing system that is significantly superior in its capabilities to an armament system is only ballast. Moreover the client predetermined the specifications and purpose of the article for us. Anything more would not have been accepted anyway."

But what are things like today?

Today the average July wages in the design office were 19,000 rubles. A housing operation office couldn't even attract a grounds-keeper for that kind of money. That's why candidates and doctors of sciences are leaving for other jobs, almost down to the level of street vendors.

"We agree that conversion is a necessary thing," continued Valeriy Vladimirovich. "We are ready to get busy

developing any kind of electronic or computer systems, but this requires orders and investments. On the other hand any attempt to work at our own risk on the basis of a commercial loan would mean certain bankruptcy. We recently developed some medical diagnostic equipment, but the hospitals don't even have enough money for medicine. Insured health care is counting on Western investors. That's a laugh! What Western producer would be interested in developing Russian industry? It is easier for them to invest money into their own production, and use us as an enormous market. That's the direction in which we are going. And the government, rather than taxing imported goods, has leaped upon its own newly organized (converted) industry. The situation is absurd. I am forced to put off filling military orders in the hope that a parliament decree would increase the minimum wage and increase the value of orders. And people who are freed could be used to develop all kinds of small products on a cooperative basis. The profits barely cover the meager wages, and not a kopeck remains for renewal of productive capital."

The situation is not simply absurd—it is phantasmagorical. In anticipation of an inflationary race, associates are delaying their deliveries, design offices their developments, and producers their end products. The entire country has stepped on the brake in unison, and it is engaging in financial calculations rather than in production. The mountain of money is growing, while production is decreasing. Speculators are growing rich, while producers are opening their safety valves. And science continues to blow bubbles.

But despite all of this, people abroad are very much interested in the latest of Salyut's developments. Just recently the design office was visited by specialists from South Africa, France and Korea (North and South). The Chinese are trying to get their hands on everything, and they have invited us to organize production in their country. But the government offers no support: It is not providing any investments, and it is not allowing us to sell any of the latest technology.

Still, things aren't all that bad, there is hope. One of the directors of a defense enterprise told me that he was visited by Finns hoping to find that plant at its last gasp (their specialists had predicted the total failure of Russian industry in early 1991), and to dictate the terms of cooperation. They were extremely amazed to find that our industry has no plans to die.

There was a time when our country was the first to design and test a radar station. But it was only the experience of using radar in combat operations by the Germans and English that compelled us to begin series production of such stations. We seem to have this passion for envying the successes of others from the sidelines.

DOCTRINAL ISSUES

Electronic Warfare Lessons From 'Desert Storm'

93UM0778A Kiev NARODNA ARMIYA in Ukrainian
20 Jul 93 p 2

[Article by Colonel L. Vasylevych, deputy department chief at the Kiev VPS [Air Forces] Institute: "'Desert Storm': Electronic Warfare"]

[Text] Operation Desert Storm, launched on 17 January 91, was typified by the mass utilization of air power and multinational forces (MNF). When the ground forces supported by aviation were activated in the concluding stage of the combat operations (February 24-28), the enemy had already been broken. The land battles were rapid, and were concluded with minimal losses.

There was great appreciation for the way U.S. aviation conducted electronic warfare in the results of combat operations in the Persian Gulf.

I cite these figures for comparison. Whereas the allies lost 34 aircraft (1.92 percent) out of 1,763 aircraft sorties during the raids on Cologne in 1944 and Israeli aviation lost 46 aircraft (1.23 percent) in 3,729 sorties in the Six-Day War in 1967, American aviation lost just 27 aircraft and helicopters in 103,300 sorties (0.26 percent) during the combat operations in the Persian Gulf. These extraordinarily low losses were achieved, first of all, thanks to the most intensive application of means of electronic warfare in the history of war.

Electronic warfare has become a special branch of combat operations and a special combat mission in an air operation with the principal spheres of combat command and control.

The PPO [air-defense] suppression echelon in the first mass air strike included approximately a third of the aircraft assigned to the strike, with 20 percent of the EW aircraft and 30 percent of the fighter cover for the strike groups. The jamming aircraft, which went out in the battle formations and loitered in the zones, performed electronic suppression of the Iraqi radars and covered the strike aircraft and Tomahawk ship-launched cruise missiles.

Powerful and active mass jamming was set up in the frequency ranges from 700 MHz to 18 GHz.

The use of special diversionary groups of aircraft with remotely-piloted decoy targets were employed in some cases in order to force the Iraqi air defenses to turn on their radars.

The use of HARM antiradar missiles with an improved system for homing in on emissions, as well as the latest British AAM antiradar missiles, used for the first time, were employed in order to defeat the radars.

The Americans made intensive use of a new low-signature aircraft—the 117A manufactured under the

Stealth program—during the conflict. Guided aerial bombs with laser homing were used, by and large, for the destruction of targets using the 117A. These aircraft, while performing five percent of the overall number of aircraft sorties on the first day, destroyed one third of all strategic targets. The reduction in radar detectability of this aircraft was achieved through the choice of special shapes and elements for its design, the use of radio-absorbing and composite materials and a reduction in the number of antennas.

The activity of Iraqi air-defense radar was reduced as a result of electronic suppression (REP) and delivery of fire. More than 50 percent of the ground radars and command posts were completely disabled.

The combat aircraft of the allied forces, having suppressed the SAMs, were able to fly at medium rather than low altitudes, where they could be hit by the fire of anti-aircraft artillery (ZA) and portable SAM systems.

All of the aircraft, with the exception of the 117A, were fitted with active jamming sets, which create imitative jamming for the radars controlling the weaponry, including the radar homing heads of missiles.

The new-generation active homing set that is installed on some aircraft, for instance, can create combinations of various types of jamming.

Layered tactical formations of mixed groups of aircraft were employed in the execution of strikes against airfields. The fighter pilots received clear instructions on the procedure for the re-assignment of targets in a case where the strike group encountered Iraqi aircraft on its flight route. Particular attention was devoted to reducing

the time for intercept and the fastest possible return of fighter cover to the strike group after the destruction of the target.

The passive actions of the Iraqi Air Forces aroused astonishment among foreign military experts. The American pilots, who had scrupulously studied the tactical methods of the enemy aircraft, were amazed at the virtually complete absence of any resistance in the air. All of the aircraft lost by MNF aviation under combat conditions were shot down by the fire of ground PPO. The greatest losses were suffered in the first days of battle by the pilots of the British Tornado aircraft, which operated at low altitudes during the performance of their missions to shut down Iraqi airfields.

The electronic reconnaissance that was performed from the reconnaissance aircraft, as well as the E-3A early-warning radar (DRLO) aircraft of the AWACS system, played a large role in the operation.

EW thus goes beyond the bounds of supporting the combat operations of aviation in air operations. It is more and more taking on the nature of an independent combat mission in the winning of air superiority. EW has two areas of principal application as an independent type of combat operations and special combat mission—fighting enemy systems of combat command and control, and suppressing his PPO systems.

The figures cited by U.S. Air Force specialists also confirm the exceptional importance of EW. The likelihood of aircraft survival without the use of means of EW is very low, equal to 0.02—0.35. When on-board jamming systems are used for individual protection, it increases to 0.44—0.85; for group ones it is 0.95.

All of the experience of combat operations in Desert Storm proves convincingly the importance of EW.

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